TECHNICAL BULLETIN

[Issue No.] FA-A-0171 **[Page]** 1/62
[Title] Differences between MELSEC-Q series and MELSEC iQ-R series
[Date of Issue] November 2014
[Relevant Models] MELSEC iQ-R series

Thank you for your continued support of Mitsubishi programmable controllers, MELSEC-Q series.
This bulletin provides differences between MELSEC-Q series and MELSEC iQ-R series.
Note that the reference manuals or the references described in this bulletin are information as of September 2014.

Contents

GENERIC TERMS ····· 2
1 DIFFERENCES BETWEEN MELSEC-Q SERIES AND MELSEC iQ-R SERIES ····· 3
1.1 Configurable Devices ····· 3
1.2 CPU Modules (QnUDVCPU and RCPU) ····· 4
1.2.1 Instructions ····· 4
1.2.2 Parameters ····· 8
1.2.3 Devices and files ····· 12
1.2.4 Functions ····· 17
1.3 Power Supply Modules, Base Units, I/O Modules ····· 26
1.3.1 Power supply modules ····· 26
1.3.2 Base units ····· 26
1.3.3 I/O modules ····· 26
1.4. Intelligent Function Modules ····· 27
1.4.1 Analog-digital converter modules ····· 27
1.4.2 Digital-analog converter modules ····· 28
1.4.3 Simple motion modules ····· 29
1.4.4 Positioning modules ····· 30
1.4.5 High-speed counter modules ····· 31
1.5. Communication Modules and Network Modules ····· 32
1.5.1 Common items for communication modules and network modules ····· 32
1.5.2 Ethernet interface modules ····· 34
1.5.3 CC-Link IE Field Network master/local modules ····· 41
1.5.4 CC-Link system master/local modules ····· 43
1.5.5 Serial communication modules ····· 44
2 SPECIFICATIONS DIFFERENCES BETWEEN MELSEC-Q SERIES AND MELSEC iQ-R SERIES ····· 46
2.1 CPU Modules (QnUDVCPU and RCPU) ····· 46
2.2 Power Supply Modules, Base Units, I/O Modules ····· 50
2.3. Intelligent Function Modules ····· 51
2.3.1 Analog-digital converter modules ····· 51
2.3.2 Digital-analog converter modules ····· 52
2.3.3 Positioning modules ····· 53
2.3.4 High-speed counter modules ····· 54
2.4. Communication Modules and Network Modules ····· 56
2.4.1 Ethernet interface modules ····· 56
2.4.2 CC-Link IE Field Network master/local modules ····· 59
2.4.3 CC-Link system master/local modules ····· 62
2.4.4 Serial communication modules ····· 62

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GENERIC TERMS

Generic term	Description
RCPU	A generic term for the R04CPU, R08CPU, R16CPU, R32CPU, and R120CPU
QnUDVCPU	A generic term for the Q03UDVCPU, Q04UDVCPU, Q06UDVCPU, Q13UDVCPU, and Q26UDVCPU

1. DIFFERENCES BETWEEN MELSEC-Q SERIES AND MELSEC iQ-R SERIES

This chapter describes the differences between MELSEC-Q series and MELSEC iQ-R series.

1.1 Configurable Devices

This section provides the list of configurable devices in the MELSEC-Q series system and the MELSEC iQ-R series system.

For details on the applicable modules in the MELSEC iQ-R series system, refer to the MELSEC iQ-R Module Configuration Manual (SH-081262ENG). Pay attention to the power capacity in selecting a model because the current consumption differs between MELSEC iQ-R series and MELSEC-Q series. Please visit the following website to check the power capacity:

www.mitsubishielectric.co.jp/fa/ssl/products/cnt/plcr/ex/select/rselsystem/rselsystem.html

No.	Item	MELSEC-Q series	MELSEC iQ-R series
1	Programmable controller CPU	Q03UDVCPU/Q04UDVCPU/Q06UDVCPU/Q13UDVCPU/ Q26UDVCPU	R04CPU/R08CPU/R16CPU/R32CPU/R120CPU
2	Motion CPU	Q172DSCPU/Q173DSCPU	R16MTCPU/R32MTCPU
3	SD memory card	L1MEM-2GBSD/L1MEM-4GBSD	L1MEM-2GBSD/L1MEM-4GBSD
4	Extended SRAM cassette	Q4MCA-1MBS/Q4MCA-2MBS/Q4MCA-4MBS/ Q4MCA-8MBS	NZ2MC-1MBS/NZ2MC-2MBS/NZ2MC-4MBS/ NZ2MC-8MBS
5	Main base unit	Q35DB/Q38DB/Q312DB	R35B/R38B/R312B
6	Extension base unit	Q65B/Q68B/Q612B	R65B/R68B/R612B
7	Extension cable	QC06B/QC12B/QC30B/QC50B	RC06B/RC12B/RC30B/RC50B
8	Power supply module	Q61P/Q63P	R61P/R63P
9	Input module	QX10/QX40/QX40-TS/QX40-S1/QX41/QX41-S1/QX42/ QX42-S1/QX80/QX80-TS/QX81/QX82/QX82-S1	RX10/RX40C7/RX41C4/RX42C4
10	Interrupt module	QI60	RX40C7
11	Output module	QY10/QY10-TS/QY40P/QY40P-TS/QY41P/QY42P/QY80/ QY80-TS/QY81P/QY82P	RY10R2/RY40NT5P/RY41NT2P/RY42NT2P/RY40PT5P/ RY41PT1P/RY42PT1P
12	I/O combined module	QH42P	RH42C4NT2P
13	Analog input module	Q64AD/Q68ADV/Q68ADI	R60AD4/R60ADV8/R60ADI8
14	Analog output module	64DAN/Q68DAVN/Q68DAIN	R60DA4/R60DAV8/R60DAI8
15	Simple motion module	QD77MS2/QD77MS4/QD77MS16	RD77MS2/RD77MS4/RD77MS8/RD77MS16
16	Positioning module	QD75P2(N)/QD75P4(N)/QD75D2(N)/QD75D4(N)	RD75P2/RD75P4/RD75D2/RD75D4
17	High-speed counter module	QD62/QD62E/QD62D	RD62P2/RD62P2E/RD62D2
18	Ethernet interface module	QJ71E71-100	RJ71EN71
19	CC-Link IE Controller Network module	QJ71GP21-SX	RJ71GP21-SX
20	CC-Link IE Field Network module	QJ71GF11-T2	RJ71GF11-T2
21	CC-Link module	QJ61BT11N	RJ61BT11
22	Serial communication module	QJ71C24N/QJ71C24N-R2/QJ71C24N-R4	RJ71C24/RJ71C24-R2/RJ71C24-R4
23	GOT	GOT2000/GOT1000	GOT2000/GOT1000
24	MELSEC iQ-R series module	Not supported	Supported
25	MELSEC-Q series module	Supported	Supported *1
26	MELSEC-A series module	Supported	Not supported
27	Engineering software	GX Works2/GX Developer	GX Works3

*1 For the applicable modules, refer to the MELSEC iQ-R Module Configuration Manual (SH-081262ENG).

1.2 CPU Modules (QnUDVCPU and RCPU)

This section describes the differences between the QnUDVCPU and the RCPU.

For details on the instructions for the RCPU, refer to the MELSEC iQ-R Programming Manual (Instructions, Standard Functions/Function Blocks) (SH-081266ENG). For details on the functions and devices, refer to the MELSEC iQ-R CPU Module User's Manual (Application) (SH-081264ENG).

QnUDVCPU projects created by using GX Works2 can be opened and edited by using GX Works3. For details, refer to the GX Works3 Operating Manual (SH-081215ENG).

1.2.1 Instructions

No.	Classification		QnUDVCPU	RCPU	Reference
1	Basic instruction	Converting 16-bit binary data to 32-bit floating point type real number	FLT	INT2FLT	(a)
2		Converting 32-bit binary data to 32-bit floating point type real number	DFLT	DINT2FLT	
3		Converting 16-bit binary data to 64-bit floating point type real number	FLTD	INT2DBL	
4		Converting 32-bit binary data to 64-bit floating point type real number	DFLTD	DINT2DBL	
5		Converting 32-bit floating point type real number to 16-bit binary data	INT	FLT2INT	
6		Converting 32-bit floating point type real number to 32-bit binary data	DINT	FLT2DINT	
7		Converting 64-bit floating point type real number to 16-bit binary data	INTD	DBL2INT	
8		Converting 64-bit floating point type real number to 32-bit binary data	DINTD	DBL2DINT	
9		Converting 16-bit binary data to 32-bit binary data	DBL	INT2DINT	
10		Converting 32-bit binary data to 16-bit binary data	WORD	DINT2INT	
11		Converting 32-bit floating point type real number to 64-bit floating point type real number	ECON	FLT2DBL	
12		Converting 64-bit floating point type real number to 32-bit floating point type real number	EDCON	DBL2FLT	
13	Application instruction	Converting hexadecimal ASCII code to 16-bit binary data	HEX	ASC2INT	
14		Converting 16-bit binary data to hexadecimal ASCII code	ASC	INT2ASC	
15		Calculating the square root of floating-point data (single precision)	SQR	ESQRT	
16		Calculating the square root of floating-point data (double precision)	SQRD	EDSQRT	
17		Calculating the square root of BCD 4-digit	BSQR	BSQRT	
18		Calculating the square root of BCD 8-digit	BDSQR	BDSQRT	
19		Ramp signal instruction	RAMP	RAMPQ	
20		Searching 16-bit binary data	SER	SERDATA	
21		Searching 32-bit binary data	DSER	DSERDATA	
22		Sorting 16-bit binary data	SORT	SORTD	
23		Sorting 32-bit binary data	DSORT	DSORTD	
24		Converting time data from hour/minute/second to second	SECOND	TIME2SEC	
25		Converting time data from second to hour/minute/second	HOUR	SEC2TIME	
26		Reading 32-bit binary data (buffer memory access)	DFRO	DFROM	
27		Reading device comment	COMRD	Not supported	(b)
28		Setting a comment file name	QCDSET		
29		High-speed block transfer of file register	RBMOV	BMOV	-
30		Selecting refresh to be performed	COM (without execution condition)	COM (with execution condition)	(c)
31			CCOM (with execution condition)		
32		Writing data to host CPU shared memory	TO/S.TO	TO	(d)
33		Reading module information	UNIRD	UNIINFRD	(e)
34		Disabling interrupt programs	DI (without execution condition)	DI (with execution condition)	(f)
35		Enabling interrupt programs	EI (without execution condition)	EI (with execution condition)	

(a) FLT, FLTD, HEX, ASC, and other instructions

Instruction names differ between the QnUDVCPU and the RCPU.

Names of instructions for the RCPU are changed so that the data status before and after conversion can be easily understood from the name.

(b) QCDSET and COMRD instructions

The RCPU does not support the QCDSET and COMRD instructions.

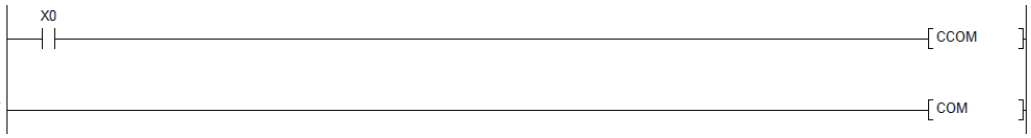
Change the program so that a device comment is read and stored to the GOT. (Use a GOT connectable to the RCPU.)

(c) CCOM and COM instructions

The RCPU does not support the CCOM instruction. Use the COM instruction instead.

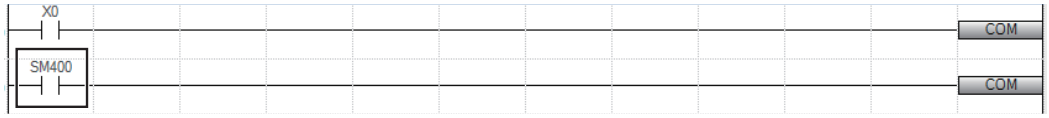
An execution condition is given to the COM instruction for the RCPU. Therefore, the instruction operates in the same way as the CCOM instruction for the QnUDVCPU.

GX Works2



Program (GX Works2)

GX Works3



Program (GX Works3)

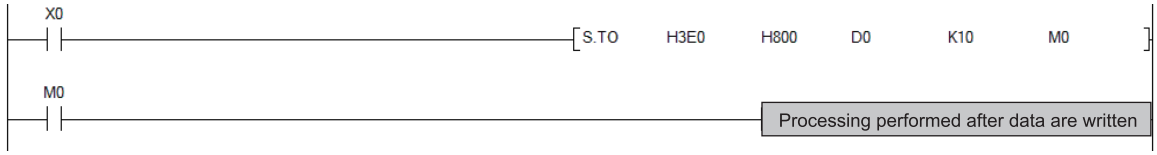
(d) S.TO instruction

The RCPU does not support the S.TO instruction. Use the TO instruction instead.

Since data are written at execution of the instruction, the completion device (D), which turns on for one scan upon completion of the processing, is not provided for the TO instruction. If (D) is used in the MELSEC-Q series program, the program needs to be corrected.

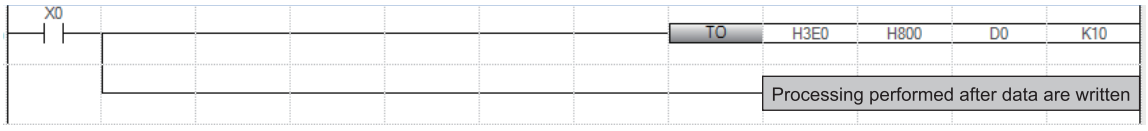
In the program example below, M0 is the completion device (D).

GX Works2



Program (GX Works2)

GX Works3



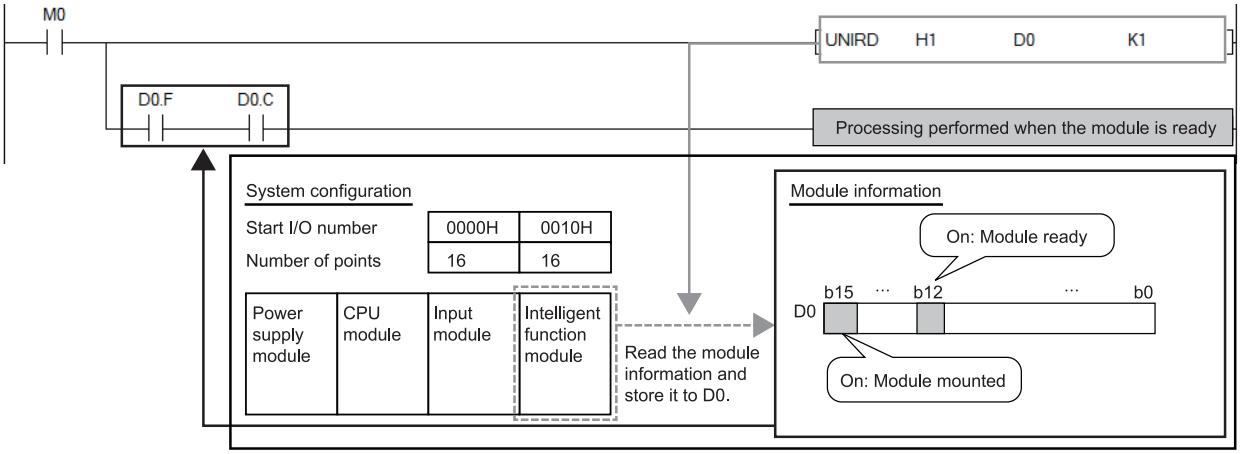
Program (GX Works3)

(e) UNIRD instruction

The RCPU does not support the UNIRD instruction. Use the UNIINFRD instruction instead.

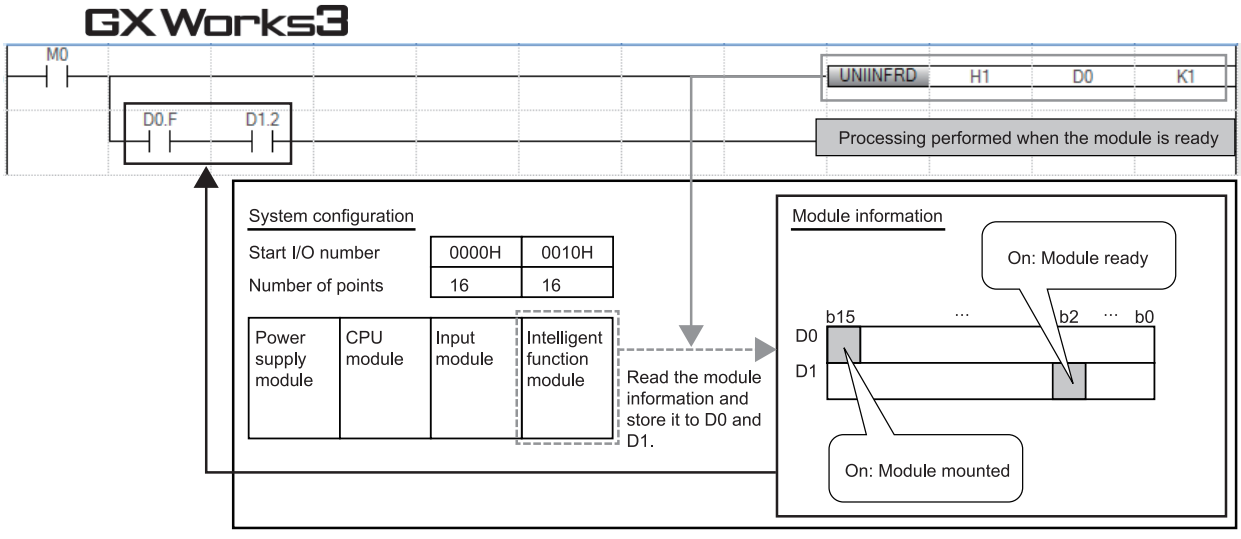
The UNIINFRD instruction reads module information in units of two words. If the module information (in units of one words) read by using the UNIRD instruction is used in the MELSEC-Q series program, the program needs to be corrected.

GX Works2



Program (GX Works2)

GX Works3



Program (GX Works3)

(f) DI and EI instructions

An execution condition is given to the DI and EI instructions for the RCPU.
For this reason, an instruction to skip the execution of these instructions, such as a jump instruction, is not required. To execute these instructions every scan in the same way as those for the QnUDVCPU, set SM400 (Always ON) as an execution condition.

Program (GX Works2)

Program (GX Works3)

1.2.2 Parameters

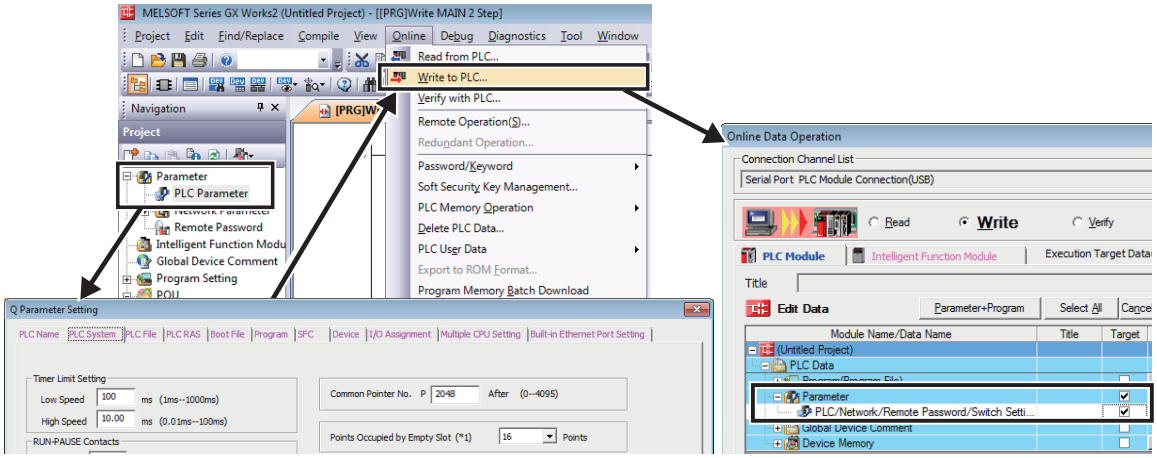
No.	Item	QnUDVCPU	RCPU	Reference
1	CPU module	PLC parameter (PARAM.QPA)	• System parameter (SYSTEM.PRM) • CPU parameter (CPU.PRM) • Module parameter (UNIT.PRM) • Memory card parameter (MEMCARD.PRM)	(a)
2	Intelligent function module	Intelligent function module parameter (IPARAM.QPA)	Module parameter (UNIT.PRM)	Parameters of each module

(a) CPU module

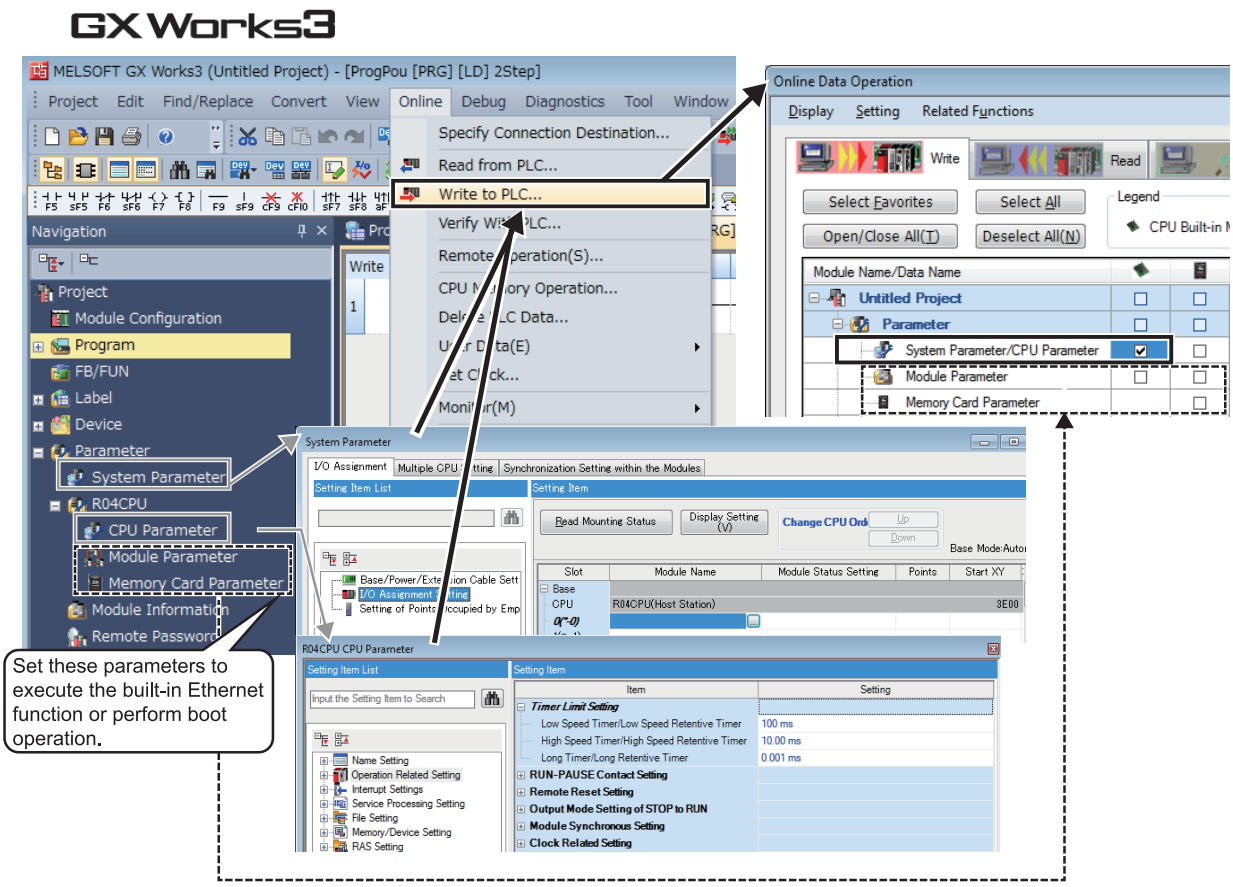
For the RCPU, set parameters, such as I/O assignment setting, that are common to all the CPU modules in the multiple CPU system in system parameter, and set parameters, such as program setting, that is specific to each CPU module in CPU parameter.

In addition, set unit parameters to use the built-in Ethernet function, and set memory card parameters to perform boot operation.

GX Works2



PLC parameter setting window and Write to PLC window (GX Works2)



System parameter setting window, CPU parameter setting window, and Write to PLC window (GX Works3)

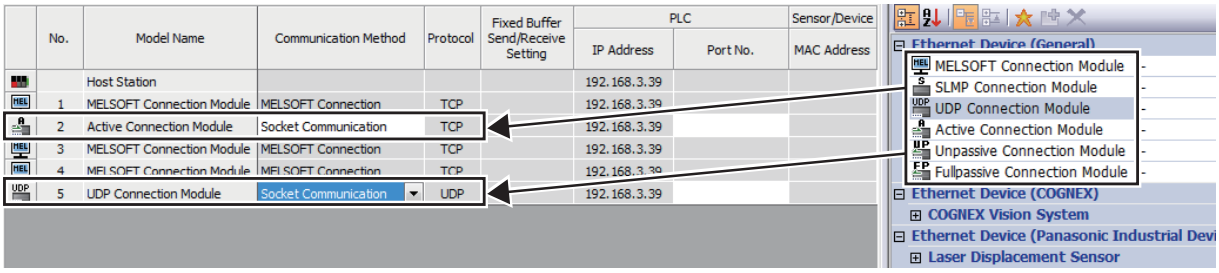
- Built-in Ethernet function: TCP (MELSOFT connection)/UDP (MELSOFT connection) setting
  For the RCPU, set connection numbers. Set "MELSOFT Connection Module" in the connection number not used. The open setting is not required when connecting the GOT or other external devices using UDP. (An automatic UDP port is used.)

GX Works2

	Protocol	Open System	TCP Connection	Host Station	Destination IP Address	Destination Port No.
1	UDP	MELSOFT Connection				
2	TCP	Socket Communication	Active	4000	192.168. 1. 1	6000
3	TCP	MELSOFT Connection				
4	TCP	MELSOFT Connection				
5	UDP	Socket Communication		4001	192.168. 1. 10	6001

Built-in Ethernet setting window of PLC parameter (GX Works2)

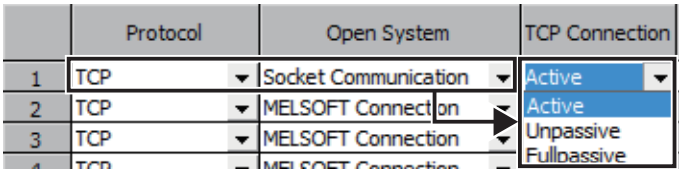
GX Works3



Module parameter setting window (GX Works3)

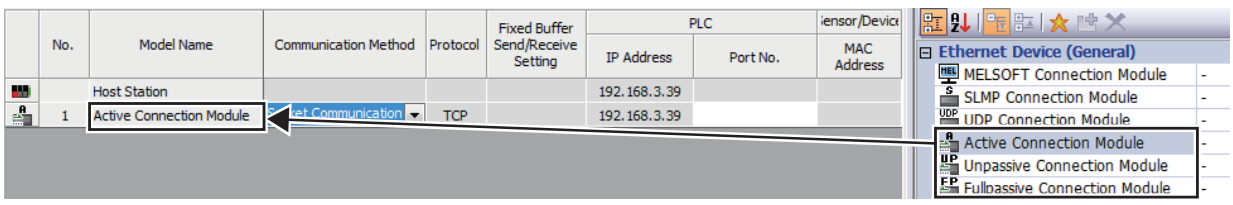
- Built-in Ethernet function: TCP connection setting of socket communications (TCP/IP connection)
  For the RCPU, select "Active Connection Module", "Unpassive Connection Module", or "Fullpassive Connection Module" in the Ethernet device setting, and then set "Socket Communication" in "Communication Method".

GX Works2



Built-in Ethernet setting window of PLC parameter (GX Works2)

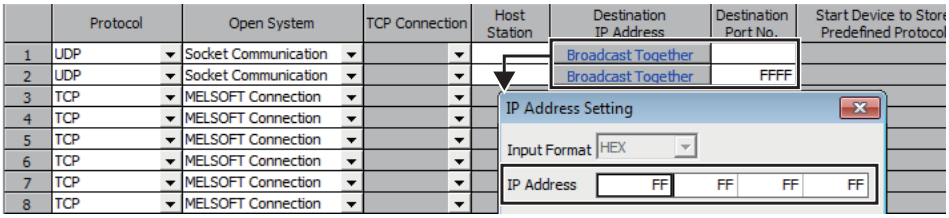
GX Works3



Module parameter setting window (GX Works3)

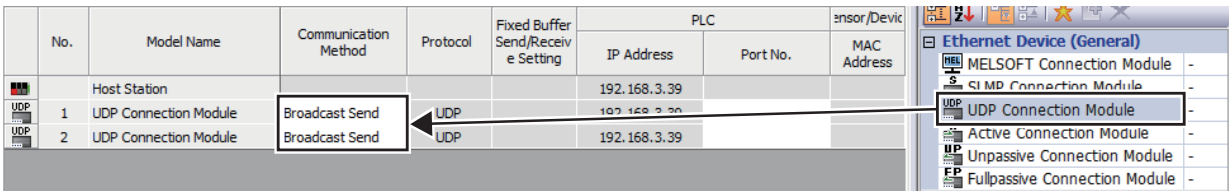
- Built-in Ethernet function: Broadcast communications setting of socket communications (UDP/IP connection)
  For the RCPU, select "UDP Connection Module", and then set "Broadcast Send" or "Broadcast Receive" in "Communication Method".

GX Works2



Built-in Ethernet setting window of PLC parameter (GX Works2)

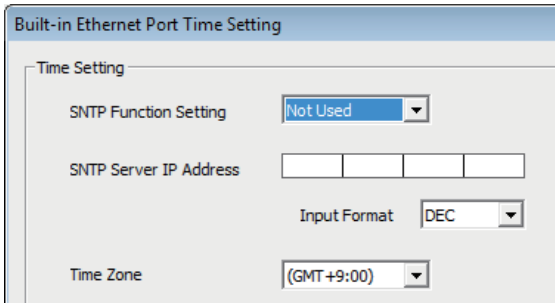
GX Works3



Module parameter setting window (GX Works3)

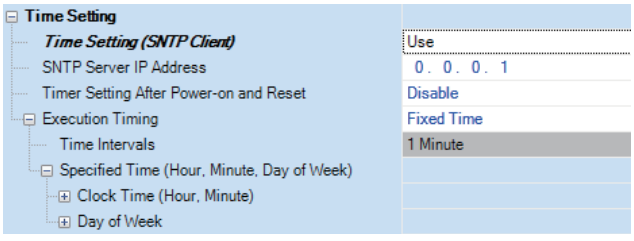
- Built-in Ethernet function: Time zone setting of time setting (SNTP client)
  For the RCPU, set the time zone in "Operation Related Setting" of CPU parameter because the time zone can be set in the clock data of the CPU module.

GX Works2



Built-in Ethernet setting window of PLC parameter (GX Works2)

GX Works3


Time Setting
Time Setting (SNTP Client) Use
SNTP Server IP Address 0.0.0.1
Timer Setting After Power-on and Reset Disable
Execution Timing Fixed Time
Time Intervals 1 Minute
Specified Time (Hour, Minute, Day of Week)
Clock Time (Hour, Minute)
Day of Week

Module parameter setting window (GX Works3)

CPU parameter setting window (GX Works3)

- Built-in Ethernet function: Setting for communications using the predefined protocol (predefined protocol operating status storage device)
  For the RCPU, check the predefined protocol operating status such as protocol execution status and protocol execution count in the CPU buffer memory (U3En\G*). If the start device where the operating status of the predefined protocol is stored is set in the open setting of PLC parameter and the device is used in the MELSEC-Q series program, the program needs to be corrected.

1.2.3 Devices and files

This section describes the specifications differences of devices and files used in the QnUDVCPU and the RCPU.

No.	Item	QnUDVCPU	RCPU	Reference
1	Special relay (SM) and special register (SD)	SM0 to SM2047, SD0 to SD2047	SM0 to SM4095, SD0 to SD4095	(a)
2	Extended data register (D) and extended link register (W)	Extended data register (D) and extended link register (W)	Not supported	(b)
3	Local device	M0, D0, and others	#M0, #D0, and others (Described with "#".)	(c)
4	File name	ASCII	Unicode	(d)

(a) Special relay (SM) and special register (SD)

The SM/SD number assignment differs between the QnUDVCPU and the RCPU. Also, some SM/SD areas are used for different purposes. If SM/SD is used in the MELSEC-Q series program, the program needs to be corrected.

When the QnUDVCPU project created by using GX Works2 is opened and edited by using GX Works3, the SM/SD areas that have not been replaced in advance are automatically converted to the corresponding SM/SD areas or CPU buffer memory (U3En\G*) assigned to the RCPU. If the area is converted to the CPU buffer memory (U3En\G*), 'n' is fixed to CPU No.1. Change 'n' to the corresponding number as needed (for CPU No.2 to No.4).

Item	QnUDVCPU	RCPU
Diagnostic error	SD0	SD0
Clock time for diagnostic error occurrence	SD1 to SD3	SD1 to SD7 (Clock time for self-diagnostic error occurrence)*1
Error common information and error individual information	SM5, SM16	N/A
Error information category, error common information, and error individual information	SD4, SD5 to SD15, SD16 to SD26	SD80 to SD143 (Detailed information 1 and 2)*1
Error clear	SD50, SM84, SD81 to SD85	N/A
Battery low	SD51, SD52	N/A
IP packet transfer function related information	SD180 to SD183	U3En\G310 to U3En\G313
Switch status and LED status	SD200, SD201	SD200, SD201
CPU module operating status	SD203	SD203
LED off command, LED color, and LED priority	SM202, SD202, SD204, SD207 to SD209	N/A
PAUSE enable coil	SM206	N/A
Clock data	SD210 to SD213	SD210 to SD216*1
LED display data	SD220 to SD227	N/A
Device range check inhibit flag	SM237	N/A
Base mode	SD240	N/A
Q series base unit connection status	SD242	SD242 (Q series module mounting availability check)
CPU No.'n' error flag	SM244 to SM247	SM230 to SM233
All stations refresh command	SM254	N/A
Device assignment	SD282 to SD311	SD260 to SD309
Latch clear function related information	SM339, SD339	N/A
Ethernet information	SD340 to SD368	N/A
Multiple CPU system information	SD393 to SD399	SD228 to SD233
Initial/minimum/maximum scan time, END processing time, constant scan waiting time, scan program execution time	SD522 to SD523, SD524 to SD525, SD526 to SD527, SD540 to SD541, SD542 to SD543, SD548 to SD549	SD518 to SD519, SD522 to SD523, SD524 to SD525, SD526 to SD527, SD528 to SD529, SD530 to SD531
Memory card usage status	SD604	SD604 (SD memory card usage status)
Drive 2 capacity (in increments of 1K or 1M bytes)	SD603, SD606, SD607	SD606, SD607 (SD memory card capacity (in increments of 1K bytes))

Item	QnUDVCPU	RCPU
Memory card remove/insert enable flag	SM609	N/A
Drive 2 free space (in increments of 1M bytes)	SD616, SD617	SD610, SD611 (SD memory card free space (in increments of 1K bytes))
Drive 3/4 related	SM620 to SM624, SD620	N/A
Drive 3 capacity (in increments of 1K bytes)	SD622	SD618, SD619
Drive 4 capacity (in increments of 1K bytes)	SD623	SD622, SD623
Drive 3/4 usage status	SD624	SD614 (Drive 3 usage status), SD620 (Drive 4 usage status)
Directory batch delete	SM638, SD638, SD639	N/A
File register information	SM640, SD640 to SD647	N/A
File register block number	SD648	SD312
Comment file information	SM650, SD650 to SD656	N/A
Program memory/standard ROM write related information	SM680 to SM682, SD681 to SD683, SM685 to SM687, SD686 to SD688	SM628 to SM630, SD629 to SD631, SM632 to SM634, SD633 to SD635
Execution count of the write instruction to the standard ROM	SD695	SD771
Boot operation information	SM660, SD660 to SD666	N/A
Parameter-valid drive information	SD670	N/A
EI flag	SM715	N/A
Block comparison	SM716 to SM718	SM704
IMASK instruction mask pattern	SD715 to SD717, SD781 to SD793	SD1400 to SD1415
File being accessed	SM721	SM753
BIN/DBIN instruction error control flag	SM722	SM754
Scaling instruction search method setting	SM750	SM755
PID bumpless processing setting and PID limit setting	SM774, SD774, SD775	SM792, SD792, SD793
Accumulator	SD718, SD719	N/A
Refresh processing selection when the COM instruction is executed	SD778	SD775
Auto logging status	SM841	N/A
Device information when the RAM error occurs	SD927, SD928	N/A
Remote password count	SD979 to SD999	U3En\G320 to U3En\G340
A to Q conversion	SM1000 to SM1255, SD1000 to SD1255	N/A
IP address being used	SD1260 to SD1265	U3En\G50 to U3En\G65 (Own node IP address)
MAC address	SD1266 to SD1268	U3En\G74 to U3En\G76 (Own node MAC address)
Time setting function (SNTP) related information	SM1270, SD1270 to SD1275*1	U3En\G290 to U3En\G299*1
Remote password mismatch count clear	SM1273	N/A
Forced connection invalidation	SD1276, SD1277	U3En\G280, U3En\G281
Open completion signal, open request signal, and receive status signal	SD1282, SD1284, SD1286	SD1504, SD1505, SD1506
Built-in Ethernet port connection status	SD1288	N/A
Ethernet basic timeout time	SD1289	N/A
IP address change function related information	SM1292 to SM1297, SD1292 to SM1299	SM1520 to SM1523, SD1520 to SD1527
Predefined protocol function related information	SM1354, SM1355*2, SD1359 to SD1381	U3En\G692, U3En\G710 to U3En\G729
Built-in Ethernet port counter	SD1395	U3En\G226 (Receive FIFO overflow count)
Fuse blown module	SD1300 to SD1331	N/A
I/O module verification	SD1400 to SD1431	N/A
Data logging	SM1940 to SM2037, SD1940 to SD2036	SM1210 to SM1307, SD1210 to SD1306

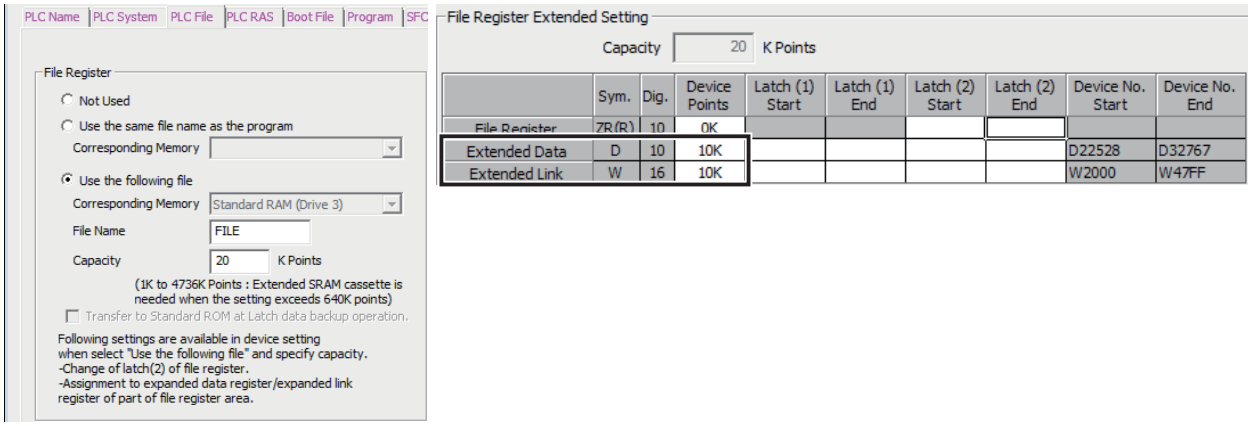
*1 Different types of data are stored in these areas of the RCPU. For this reason, when the QnUDVCPU project created by using GX Works2 is opened and edited by using GX Works3, the areas are not converted automatically.

*2 SM1355 cannot be used in the RCPU.

(b) Extended data register (D) and extended link register (W)

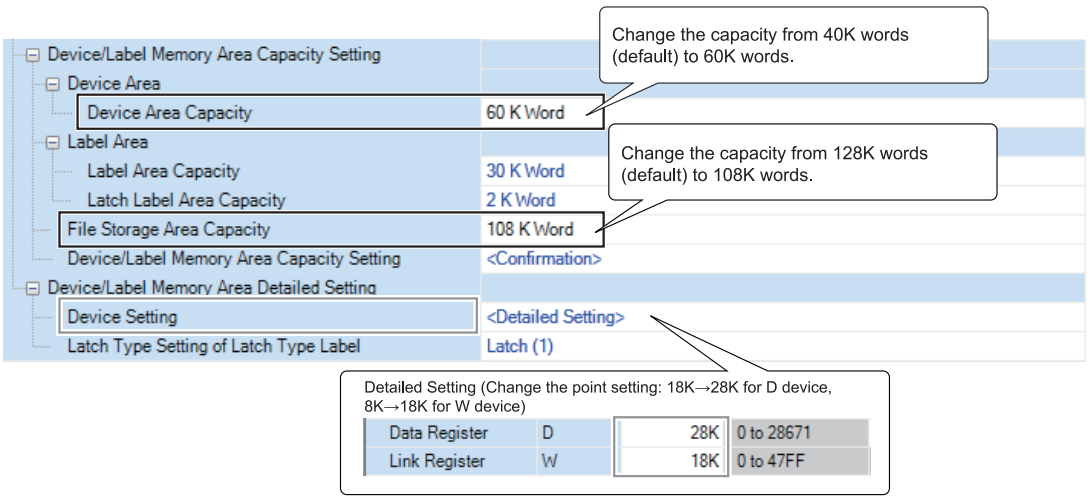
The RCPU does not support the use of the extended data register (D) and extended link register (W). Increase the device area capacity, and also increase the number of points for the data register (D) and link register (W) in CPU parameter. (To increase the device area capacity, decrease the file storage area capacity.)

GX Works2



PLC parameter setting window (GX Works2)

GX Works3



CPU parameter setting window (GX Works3)

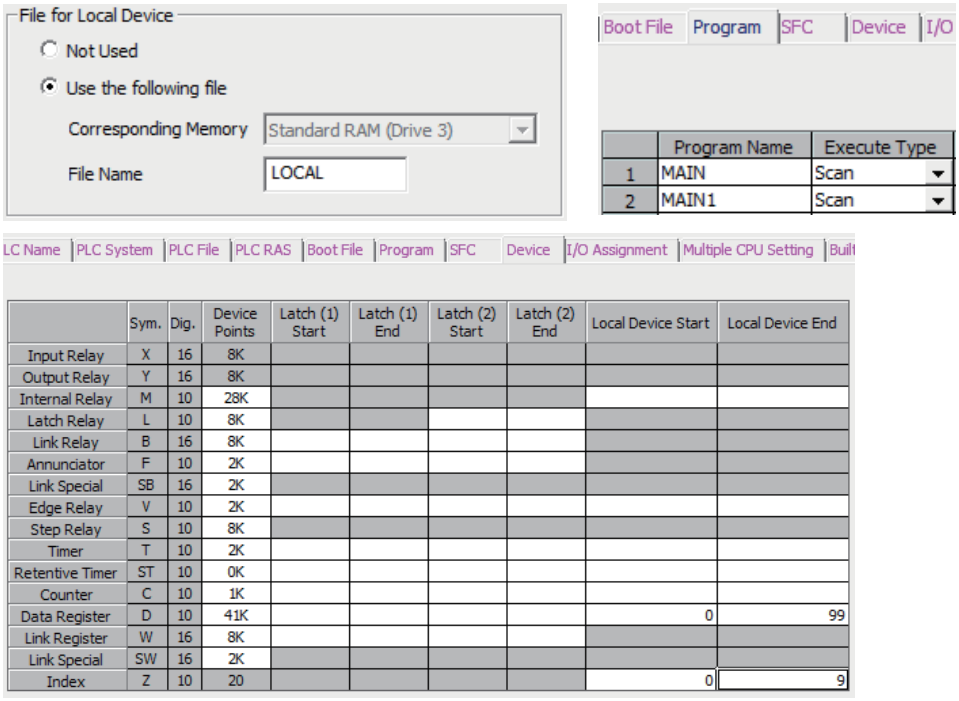
(c) Local devices

Describe local devices in the ladder with "#".

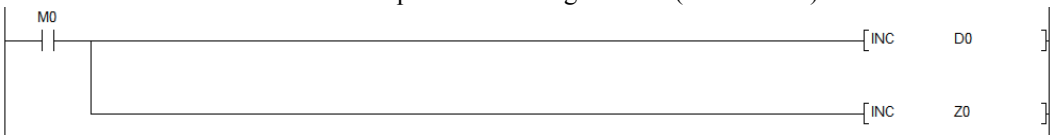
Note that "#" is not required to describe the index register (Z) and the file register (R/ZR) used in each program.

For the RCPU, a local device file does not need to be specified, but the area for local devices must be secured in memory.

GX Works2



PLC parameter setting window (GX Works2)



Program (MAIN/MAIN1) (GX Works2)

GX Works3

Program Setting

Execute Order	Program Name	Type
1	MAIN	Scan
2	MAIN1	Scan

Memory/Device Setting

Item	Setting
Device/Label Memory Area Capacity Setting	
Device Area	
Device Area Capacity	40 K Word
Label Area	
Label Area Capacity	30 K Word
Latch Label Area Capacity	2 K Word
File Storage Area Capacity	100 K Word
Device/Label Memory Area Capacity Setting	<Confirmation>
Device/Label Memory Area Detailed Setting	
Device Setting	<Detailed Setting>
Latch Type Setting of Latch Type Label	Latch (1)
Index Register Setting	
Points Setting	
Local Setting	
Points Setting	
Local Index Register (Z)	10 Points
Local Long Index Register (LZ)	0 Points
Start	
Index Register (Z)	0
Index Register Setting	0

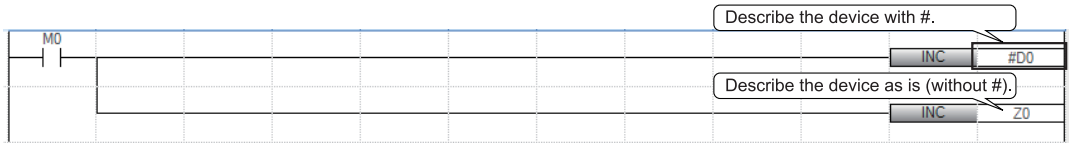
Change the capacity from 128K words (default) to 100K words.
(Secure the local device area capacity.)

Set the local index register points.

Detailed Setting (Local Device setting)

Item	Symbol	Device		Local Device		
		Points	Range	Start	End	Points
Input	X	12K	0 to 2FFF			
Output	Y	12K	0 to 2FFF			
Internal Relay	M	12K	0 to 12287			
Link Relay	B	8K	0 to 1FFF			
Special Link Relay	SB	2K	0 to 7FF			
Annunciator	F	2K	0 to 2047			
Edge Relay	V	2K	0 to 2047			
Timer	T	1K	0 to 1023			
Long Timer	LT	1K	0 to 1023			
Retentive Timer	ST	0				
Long Retentive Time	LST	0				
Counter	C	512	0 to 511			
Long Counter	LC	512	0 to 511			
Data Register	D	18K	0 to 18431	0	99	100

CPU parameter setting window (GX Works3)



Program (MAIN/MAIN1) (GX Works3)

(d) File names

The RCPU handles file names as Unicode data. Specify the file name in Unicode when reading a file in the CPU module from an external device, such as an FTP client.

File names described as string data (using " ") in the program are recognized as Unicode. However, if file names stored in the device is included in the program, the program needs to be corrected.

1.2.4 Functions

No.	Item	QnUDVCPU	RCPU	Reference
1	SFC program	SFC program	Not supported	-
2	Structured ladder/FBD	Structured ladder/FBD	Not supported	-
3	Sampling trace function	Sampling trace function	Not supported	(a)
4	Latch data backup to standard ROM	Latch data backup to standard ROM	Not supported	(b)
5	CPU module change function with memory card	CPU module change function with memory card	Not supported	(c)
6	Monitor	Monitor condition setting	Not supported	(d)
7		Executional conditioned device test	Not supported	(e)
8		External input/output forced on/off function	Not supported	(f)
9	Execution time measurement	Scan time measurement	Not supported	(g)
10	MELSEC-A series compatible function	Access by using A-compatible 1C/1E frame (A to Q converted SM/SD areas (SM1000 to SM1255, SD1000 to SD1255))	Not supported	(h)
11	High-speed interrupt function	High-speed interrupt (I49) (Use the High-speed I/O refresh function and the high-speed buffer transfer function.)	Interrupt using I49 (Set an event execution type program which will be triggered by the interrupt pointer I49, and perform refresh for each program.)	(i)
12	Service processing	Service processing setting	Device/label access service processing setting	(j)
13	Data logging function	Data logging file transfer function	Not supported	(k)
14	Multiple CPU function	Access to the host CPU operation information area (U3En\G0 and later) in CPU shared memory	Not supported	(l)
15		Multiple CPU high speed transmission area (U3En\G10000 and later) in the cyclic transmission area device	Fixed scan communication area (U3En\HG0 and later) in the CPU buffer memory access device	(m)
16		Refresh using the multiple CPU high speed transmission area (Data are refreshed during END processing.)	Refresh using the fixed scan communication area (Data are refreshed at execution of the multiple CPU synchronous interrupt program (I45).)	(n)
17	File password and remote password	File password 32 (Length: 4 to 32 characters)	File password (Length: 6 to 32 characters)	(o)
18		Remote password (Length: 4 characters)	Remote password (Length: 6 to 32 characters)	
19	Self-diagnostics function	Error clear (Continuation errors can be cleared by types.)	Error clear (Continuation errors are batch-cleared.)	(p)

(a) Sampling trace function

The RCPU does not support the sampling trace function.

Use the trigger logging of the data logging function instead. Note that an SD memory card is required to store data because the CPU built-in memory cannot be used as data storage destination in the RCPU.

(b) Latch data backup to standard ROM

The RCPU does not support the latch data backup to standard ROM function.

Use the data backup/restoration function of the GOT instead. Or, read data using GX Works3, store the data, and write the data back again to the CPU module.

(c) CPU module change function with memory card

The RCPU does not support the CPU module change function with memory card.

Use the data backup/restoration function of the GOT instead. Or, read data using GX Works3, store the data, and write the data back again to the CPU module.

(d) Monitor condition setting

The RCPU does not support the monitor condition setting.

Use the trigger logging of the data logging function instead.

Trigger logging collects monitor data at the timing of specified condition or step number.

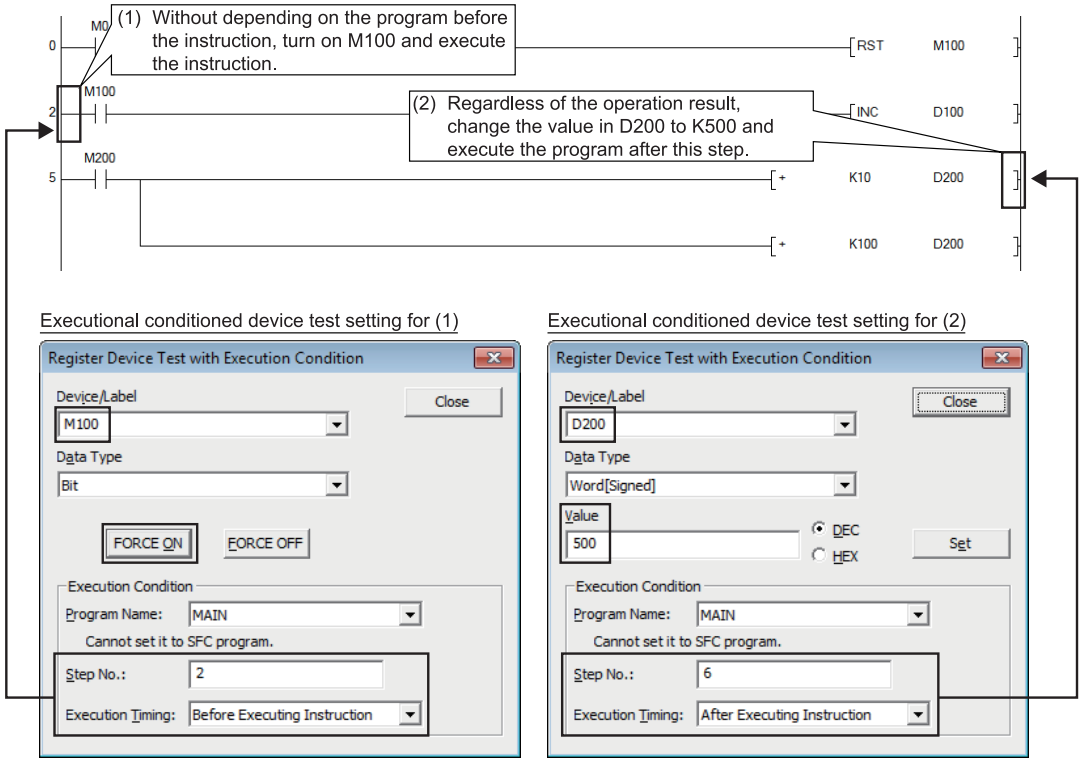
(e) Executional conditioned device test

The RCPU does not support the executional conditioned device test.

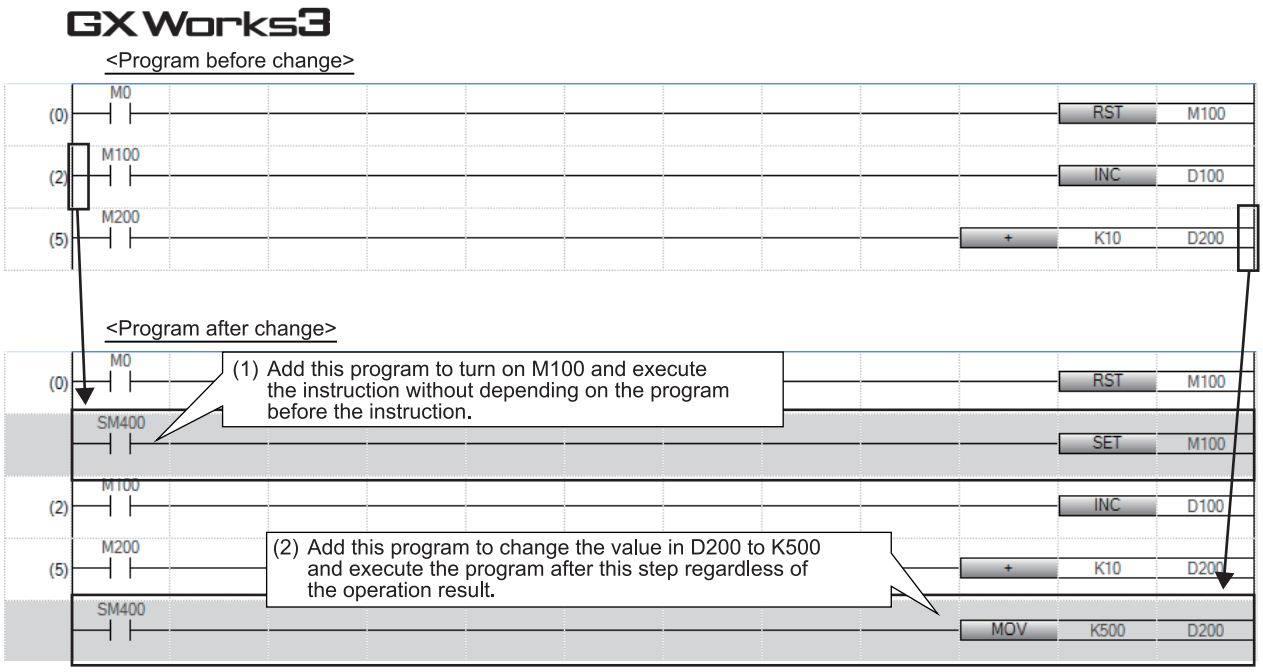
To change a device value at the specified step, execute the online change function, and add a replacement program to the desired position. (Delete the program to disable the processing.)

If the execution timing is set to before execution of an instruction in the QnUDVCPU program, add a program for the device test before the corresponding step in the RCPU program. If the execution timing is set to after execution of an instruction, add a program after the corresponding step.

GX Works2



Program and Device Test with Execution Condition window (GX Works2)



Program (GX Works3)

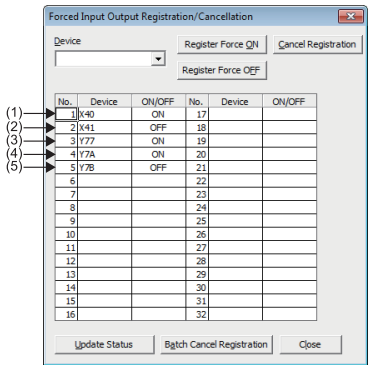
(f) External input/output forced on/off function

The RCPU does not support the external input/output forced on/off function.

Use the following program instead.

- To forcibly turn on/off the X device, add the SET and RST instructions at the start of the scan program. To forcibly turn on/off the Y device, add the SET and RST instructions at the end of the scan program.

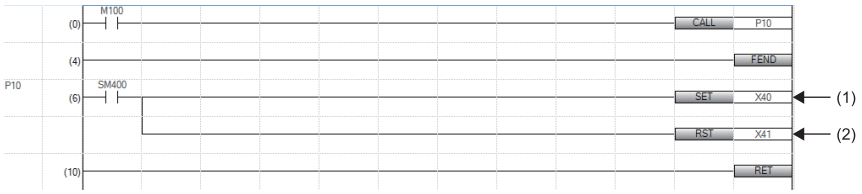
GX Works2



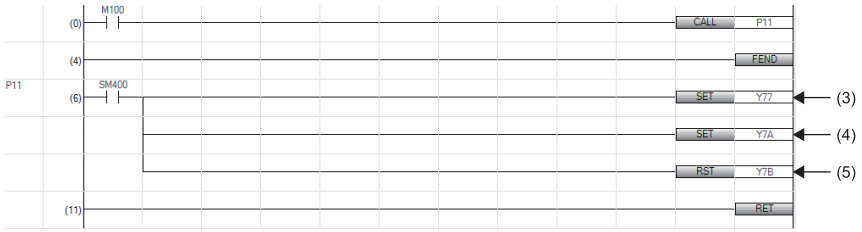
Forced Input Output Registration/Cancellation window (GX Works2)

GX Works3

<Forcibly turning on/off the X device>



<Forcibly turning on/off the Y device>



Program (GX Works3)

<Restrictions>

The replacement program cannot be used in the following cases.

- Input and output targeted for forced on/off are referred to or changed using the direct input device (DX) and direct output device (DY).
- Input and output targeted for forced on/off are referred to or changed within an interrupt program.

(g) Scan time measurement

The RCPU does not support the scan time measurement.

To check the scan time of programs being executed, use the program list monitor.

Refer to the instruction processing time list in the MELSEC iQ-R Programming Manual (Instructions, Standard Functions/Function Blocks) to calculate the processing time of the specified program section.

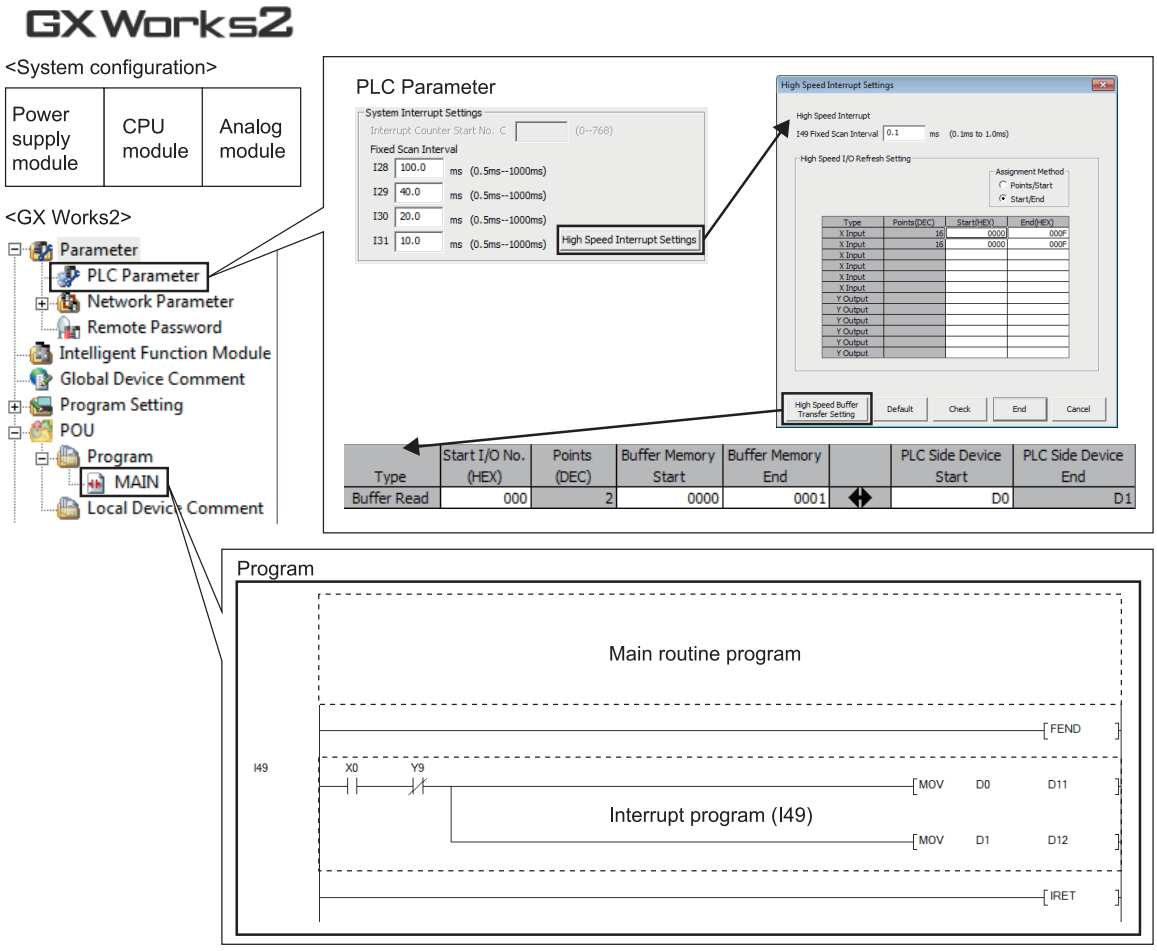
(h) Access by using A-compatible 1C/1E frame (A to Q converted SM/SD areas (SM1000 to SM1255, SD1000 to SD1255))

The RCPU does not support the access by using A-compatible 1C/1E frame. (The A to Q converted SM/SD areas (SM1000 to SM1255, SD1000 to SD1255) cannot be used.) Use the QnA-compatible 3E/3C frame instead, and access the SM/SD areas of the RCPU.

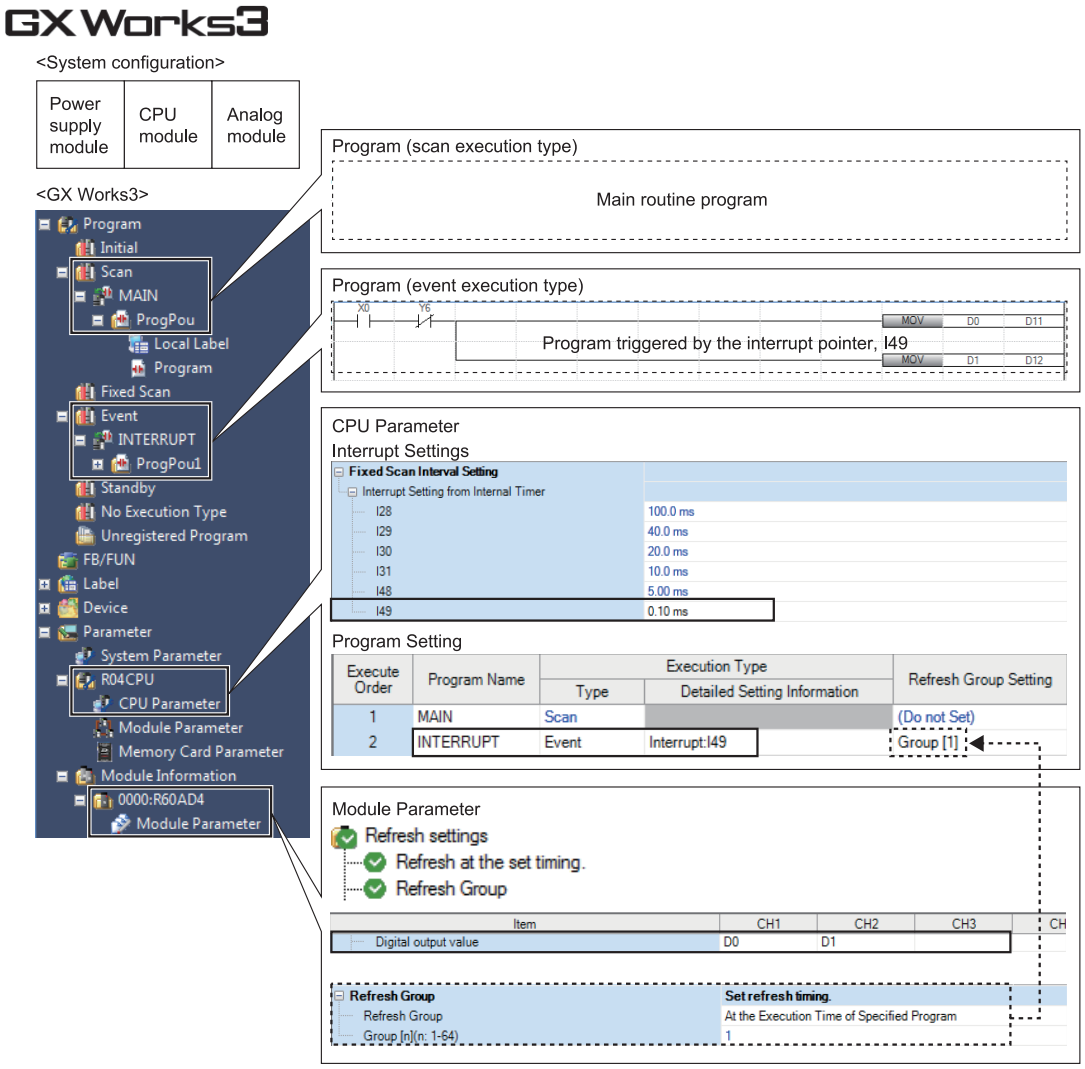
(i) High-speed interrupt function: high-speed I/O refresh function and high-speed transfer function

To perform the high-speed interrupt function with the RCPU, set an event execution type program which will be triggered by the interrupt pointer I49 in CPU parameter (Program Setting) so that refresh is performed for each program separately.

To perform high-speed I/O refresh or high-speed transfer, set refresh target data or refresh group in module parameter of the target module.



PLC parameter setting window and program (GX Works2)



CPU parameter setting window, module parameter setting window, and program (GX Works3)

(j) Service processing

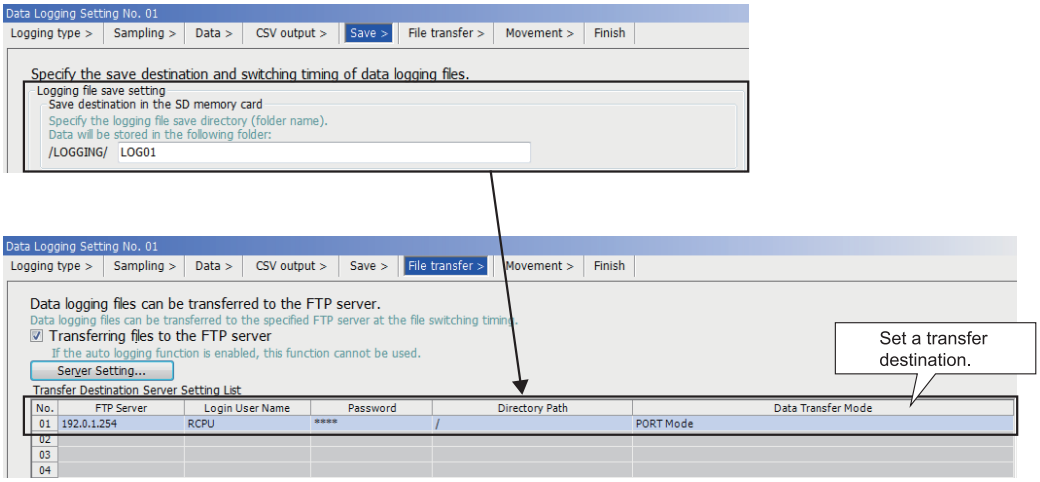
The RCPU performs file access processing, such as reading program files, without being synchronized with each scan (not during END processing) so that the scan time will not be delayed due to the processing.

For this reason, the response performance does not improve even though the number of processing counts is increased in the device/label access service processing setting. (The response performance does not improve either even though the COM instruction is used.)

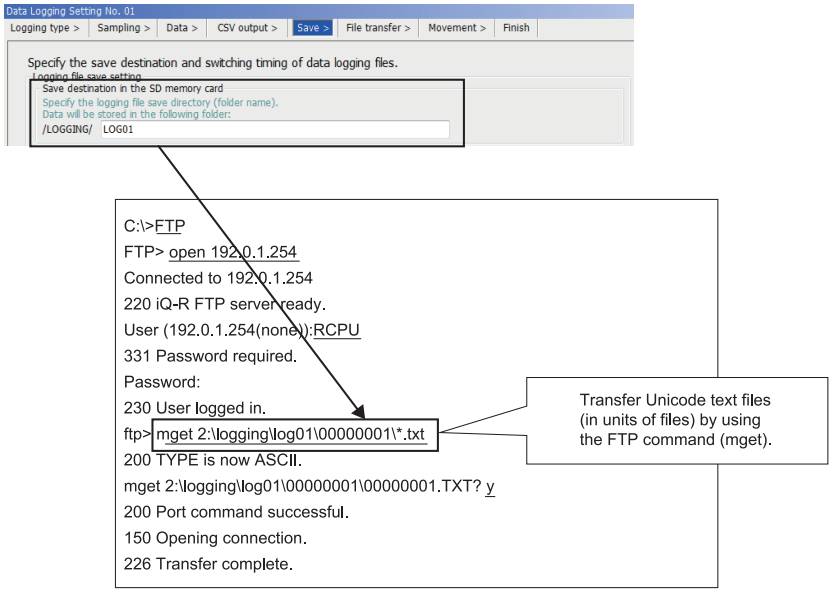
On the other hand, the RCPU performs device access processing, such as reading device data, during END processing. Therefore, the response performance of device access processing can be improved by increasing the number of processing counts in the device/label access service processing setting or by using the COM instruction.

(k) Data logging file transfer function

The RCPU does not support the data logging file transfer function.
Use the FTP server function of built-in Ethernet and load logging result files in the CPU module to the server, such as a personal computer.


Data Logging Setting No. 01
Logging type > | Sampling > | Data > | CSV output > | Save > | File transfer > | Movement > | Finish
Specify the save destination and switching timing of data logging files.
Logging file save setting
Save destination in the SD memory card
Specify the logging file save directory (folder name).
Data will be stored in the following folder:
/LOGGING/ LOG01
Data Logging Setting No. 01
Logging type > | Sampling > | Data > | CSV output > | Save > | File transfer > | Movement > | Finish
Data logging files can be transferred to the FTP server.
Data logging files can be transferred to the specified FTP server at the file switching timing.
Transferring files to the FTP server
If the auto logging function is enabled, this function cannot be used.
Server Setting...
Transfer Destination Server Setting List
No. | FTP Server | Login User Name | Password | Directory Path | Data Transfer Mode
01 | 192.0.1.254 | RCPU | **** | / | PORT Mode
02
03
04
Set a transfer destination.

File transfer window (CPU Module Logging Configuration Tool)


Data Logging Setting No. 01
Logging type > | Sampling > | Data > | CSV output > | Save > | File transfer > | Movement > | Finish
Specify the save destination and switching timing of data logging files.
Logging file save setting
Save destination in the SD memory card
Specify the logging file save directory (folder name).
Data will be stored in the following folder:
/LOGGING/ LOG01
C:\>FTP
FTP> open 192.0.1.254
Connected to 192.0.1.254
220 iQ-R FTP server ready.
User (192.0.1.254(none)):RCPU
331 Password required.
Password:
230 User logged in.
ftp> mget 2:\logging\log01\00000001*.txt
200 TYPE is now ASCII.
mget 2:\logging\log01\00000001\00000001.TXT? y
200 Port command successful.
150 Opening connection.
226 Transfer complete.
Transfer Unicode text files (in units of files) by using the FTP command (mget).

Command Prompt window for FTP file transfer

(l) Access to the host CPU operation information area in CPU shared memory

The RCPU does not have the host CPU operation information area (U3En/G0 and later) in CPU shared memory. If the host CPU operation information area is used in the MELSEC-Q series program, the program needs to be corrected.
To check the operation information of another CPU module, refresh the data in the corresponding special register (SD) to the CPU shared memory, and then access to the data stored in the memory.

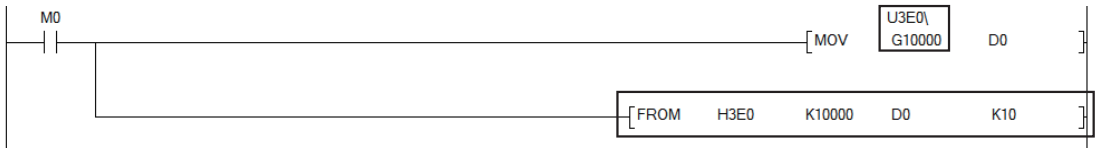
(m)Access to the multiple CPU high speed transmission area

Area used for data communications among multiple CPU modules has been extended in the RCPU. The multiple CPU high speed transmission area is included in the fixed scan communication area, and the addresses have been changed from U3En\G10000 and later to U3En\HG0 and later.

If the multiple CPU high speed transmission area is used in the MELSEC-Q series program, the program needs to be corrected.

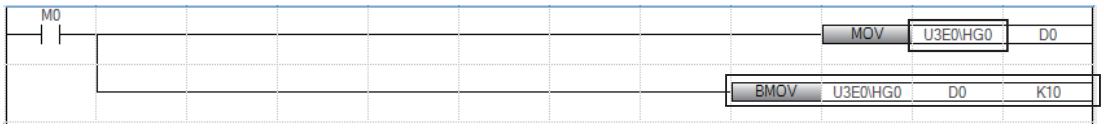
When the QnUDVCPU project created by using GX Works2 is opened and edited by using GX Works3, the addresses U3En/G10000 and later are automatically converted to U3En/HG0 and later. Note, however, that if the fixed scan communication area is accessed by using the FROM/TO instructions, the access method needs to be corrected. Use the data transfer instruction and CPU buffer memory access device, (example: MOV U3En\HG* D0) instead of the FROM/TO instructions.

GX Works2



Program that accesses to the multiple CPU high speed transmission area (GX Works2)

GX Works3



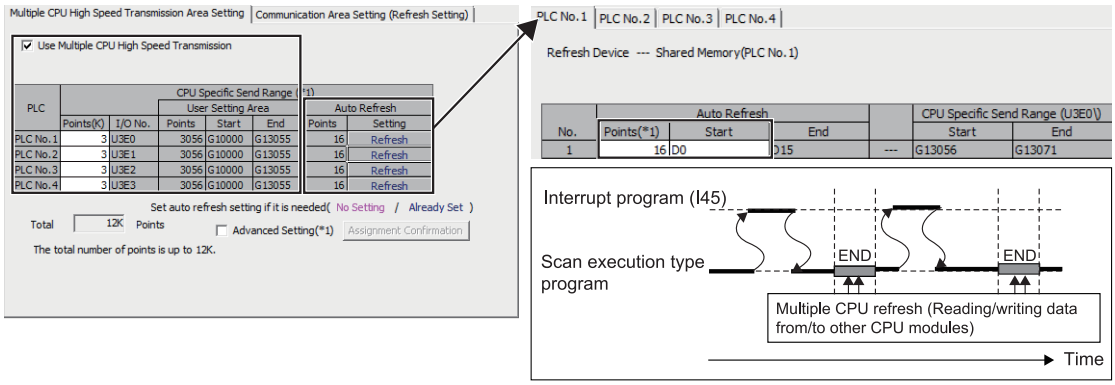
Program that accesses to the fixed scan communication area (GX Works3)

(n) Refresh using the multiple CPU high speed transmission area

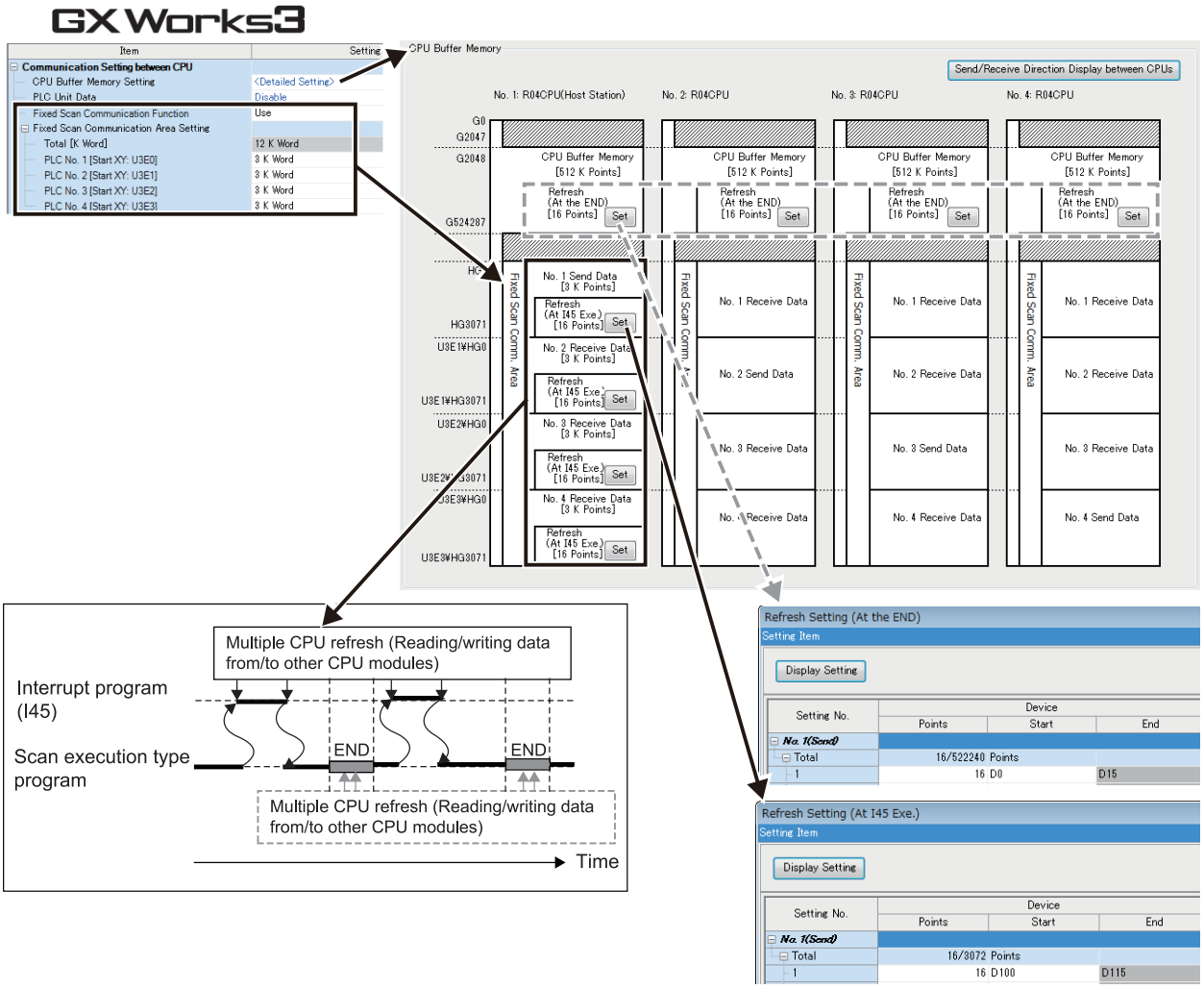
The RCPU performs multiple CPU refresh at two timings: during END processing and at execution of the multiple CPU synchronous interrupt (I45). Since refresh timing differs, if refresh using the multiple CPU high speed transmission area is set in the MELSEC-Q series program, the program needs to be corrected.

To perform refresh during END processing, set the refresh timing in system parameter ("Refresh Setting (At the END)" under "CPU Buffer Memory Setting").

GX Works2



PLC parameter setting window (Multiple CPU Setting) and refresh timing (GX Works2)



System parameter setting window (Multiple CPU Setting) and refresh timing (GX Works3)

(o) File password and remote password

The number of characters in a password differs between the QnUDVCPU and the RCPU. Set a password within the range of 6 to 32 characters for the RCPU.

Also, change the password of an external device in accordance with the password set to the RCPU if there is any external device, such as an FTP client, that accesses the programmable controller.

(p) Self-diagnostics function

The RCPU batch-clears all the continuation errors being detected.

The delete-target continuation error does not need to be specified individually.

The error code system for the RCPU has been renewed. If an error code is set as an operating condition or interlock condition in the MELSEC-Q program, the program needs to be corrected.

1.3 Power supply modules, base units, I/O modules

This section describes the differences of power supply modules, base units, and I/O modules between MELSEC-Q series and MELSEC iQ-R series.

1.3.1 Power supply modules

The following table summarizes the differences of power supply modules.

No.	Item	MELSEC-Q series	MELSEC iQ-R series
1	Terminal block screw size	M3.5	M4.0

1.3.2 Base units

The following table summarizes the differences of base units.

No.	Item	MELSEC-Q series	MELSEC iQ-R series
1	Extension level setting	Set with a connector pin.	Automatically recognized.
2	Extension cable connecting method	Fixing screw	Lock button

1.3.3 I/O modules

The following table summarizes the differences of I/O modules.

(1) Connector type

No.	Item	MELSEC-Q series (QX81, QY81P)	MELSEC iQ-R series (RX41C4, RY41PT1P)
1	Connector	37-pin D-sub connector	40-pin connector

(2) Interrupt function (interrupt module)

To use the interrupt function in the MELSEC iQ-R series system, use an input module. Set the interrupt function in module parameter of the input module used.

(3) Parameters

No.	Item	MELSEC-Q series	MELSEC iQ-R series
1	Input response time	I/O assignment setting of PLC parameter	Module parameter
2	Interrupt setting		
3	Error time output mode		

1.4 Intelligent Function Modules

1.4.1 Analog-digital converter modules

This section describes the differences of analog-digital converter modules between MELSEC-Q series (Q64AD/Q68ADV/Q68ADI) and MELSEC iQ-R series (R60AD4/R60ADV8/R60ADI8).

For details on the MELSEC iQ-R series modules, refer to the MELSEC iQ-R Analog-Digital Converter Module User's Manual (Application) (SH-081233ENG).

(1) Dedicated instructions

There is no difference between MELSEC-Q series and MELSEC iQ-R series.

(2) Parameters

No.	MELSEC-Q series		MELSEC iQ-R series
1	Error time output mode	I/O assignment setting of PLC parameter	Module parameter
2	Switch setting	Intelligent function module parameter	
3	Parameter (each setting)		
4	Auto refresh		

(3) I/O signals and buffer memory areas

The layouts of I/O signals and buffer memory areas differ between MELSEC-Q series and MELSEC iQ-R series. If I/O signals and buffer memory areas are used in the MELSEC-Q series program, the program needs to be corrected.

In Q compatible mode, the MELSEC-Q series program can be used as it is, except for the differences in the signals and functions listed below.

No.	Signal name	MELSEC-Q series	MELSEC iQ-R series
1	X1	Temperature drift correction flag	Not supported
2	X8	High resolution mode status flag	Alert output signal

(4) Functions

No.	Item	MELSEC-Q series	MELSEC iQ-R series	Reference
1	Resolution mode switching function	Resolution mode switching function	Not supported	(a)
2	Temperature drift compensation function	Temperature drift compensation function	Not supported	(b)

(a) Resolution mode switching function

The MELSEC iQ-R series modules do not support the resolution mode switching function because the resolution has already been enhanced.

Using the scaling function yields a value equivalent to that in the MELSEC-Q series. Note that the converted value is stored into the "Digital operation value" area, and thus has a different buffer memory address to be referred.

(b) Temperature drift compensation function

The MELSEC iQ-R series modules do not support the temperature drift compensation function because the accuracy has already been enhanced. (The accuracy is comparable to that of the MELSEC-Q series with the temperature drift compensation function used.) If the function is used in the MELSEC-Q series program, the program needs to be corrected.

1.4.2 Digital-analog converter modules

This section describes the differences of digital-analog converter modules between MELSEC-Q series (Q64DAN/Q68DAIN/Q68DAVN) and MELSEC iQ-R series (R60DA4/R60DAI8/R60DAV8).

For details on the MELSEC iQ-R series modules, refer to the MELSEC iQ-R Digital-Analog Converter Module User's Manual (Application) (SH-081237ENG).

(1) Dedicated instructions

There is no difference between MELSEC-Q series and MELSEC iQ-R series.

(2) Parameters

No.	MELSEC-Q series		MELSEC iQ-R series
1	Error time output mode	I/O assignment setting of PLC parameter	Module parameter
2	Switch setting	Intelligent function module parameter	
3	Parameter (each setting)		
4	Auto refresh		

(3) I/O signals and buffer memory areas

The layouts of I/O signals and buffer memory areas differ between MELSEC-Q series and MELSEC iQ-R series. If I/O signals and buffer memory areas are used in the MELSEC-Q series program, the program needs to be corrected.

In Q compatible mode, the MELSEC-Q series program can be used as it is, except for the differences in the signals and functions listed below.

No.	Signal name	MELSEC-Q series	MELSEC iQ-R series
1	X8	High resolution mode status flag	Not supported
2	XD	Synchronous output mode flag	Disconnection detection signal
3	YD	Synchronous output request	Not supported

(4) Functions

No.	Item	MELSEC-Q series	MELSEC iQ-R series	Reference
1	Resolution mode switching function	Resolution mode switching function	Not supported	(a)

(a) Resolution mode switching function

The MELSEC iQ-R series modules do not support this function because the resolution has already been enhanced.

Using the scaling function yields a value equivalent to that in the MELSEC-Q series. Note that the converted value is stored into the "Digital operation value" area, and thus has a different buffer memory address to be referred.

1.4.3 Simple motion modules

This section describes the differences of simple motion modules between MELSEC-Q series (QD77MS2/QD77MS4/QD77MS16) and MELSEC iQ-R series (RD77MS2/RD77MS4/RD77MS8/RD77MS16).
For details on the MELSEC iQ-R series modules, refer to the MELSEC iQ-R Simple Motion Module User's Manual (Application) (IB-0300247).

(1) Wiring

There is no difference between MELSEC-Q series and MELSEC iQ-R series.

(2) Program

(a) I/O signals

The layout of I/O signals differs between MELSEC-Q series and MELSEC iQ-R series.
If I/O signals are used in the MELSEC-Q series program, the program needs to be corrected.
The RD77MS16, however, allows the program to be used without correction.

(b) Buffer memory areas

The layout of buffer memory areas differs between MELSEC-Q series and MELSEC iQ-R series.
If buffer memory areas are used in the MELSEC-Q series program, the program needs to be corrected.

(c) Error codes and alarm codes

The error code system for the MELSEC iQ-R series has been renewed. If an error code is set as an operating condition or interlock condition in the MELSEC-Q program, the program needs to be corrected.

1.4.4 Positioning modules

This section describes the differences of positioning modules between MELSEC-Q series (QD75P2N/QD75P4N/QD75D2N/QD75D4N) and MELSEC iQ-R series (RD75P2/RD75P4/RD75D2/RD75D4).
For details on the MELSEC iQ-R series modules, refer to the MELSEC iQ-R Positioning Module User's Manual (Application) (SH-081245ENG) and the MELSEC iQ-R Positioning Module User's Manual (Startup) (SH-081243ENG).

(1) Wiring

There are differences in the layout of PULSE COM terminals between the QD75D2N/QD75D4N and the RD75D2/RD75D4.

To use the 40-pin connector of the QD75D2N/QD75D4N with the RD75D2/RD75D4, wiring to the 2B20 and 2B19 pins is required.

(2) Dedicated instructions

There is no difference between MELSEC-Q series and MELSEC iQ-R series.

(3) Parameters

No.	MELSEC-Q series		MELSEC iQ-R series
1	Error time output mode	I/O assignment setting of PLC parameter	Module parameter
2	Parameter (each setting)	Intelligent function module parameter	
3	Auto refresh		
4	Positioning data	Intelligent function module parameter	Module extension parameter
5	Block start data		

- Writing parameters

The MELSEC iQ-R series allows parameters to be written to the CPU module as well as the positioning module. This makes it possible to control parameters centrally by the CPU module, thereby making it easier to change the module in maintenance.

The module parameters and module extension parameters stored in the CPU module are reflected to the positioning module when the system is powered on, the CPU module is reset, or the operating status of the CPU module is changed from STOP to RUN.

To set the module extension parameters using a program, execute the parameter setting program after Module access flag turns on. Since the parameters stored in the CPU module is written to the positioning module when the operating status of the CPU module is changed from STOP to RUN, execute the parameter setting program again.

To set positioning data using a program or change positioning data using the teaching function, especially for the system where positioning data varies from one workpiece to another or the system where settings are changed with GOT or other external devices, set "Positioning module" in "Extended parameter storage setting" under basic setting of module parameter, and store parameters into the positioning module using the module backup function.

(4) I/O signals and buffer memory areas

The layouts of I/O signals and buffer memory areas differ between MELSEC-Q series and MELSEC iQ-R series. If I/O signals and buffer memory areas are used in the MELSEC-Q series program, the program needs to be corrected.

No.	Signal name	MELSEC-Q series	MELSEC iQ-R series
1	X1	Synchronization flag	Module access flag

(5) Functions

There is no difference between MELSEC-Q series and MELSEC iQ-R series.

1.4.5 High-speed counter modules

This section describes the differences of high-speed counter modules between MELSEC-Q series (QD62/QD62D/QD62E) and MELSEC iQ-R series (RD62P2/RD62D2/RD62P2E).

For details on the MELSEC iQ-R series modules, refer to the MELSEC iQ-R High-Speed Counter Module User's Manual (Application) (SH-081241ENG) and the MELSEC iQ-R High-Speed Counter Module User's Manual (Startup) (SH-081239ENG).

(1) Wiring

The wiring for coincidence output differs between the QD62E and the RD62P2E.

To use the 40-pin connector of the QD62E with the RD62P2E, wiring to the A01 and A02 pins is no longer required. (A01 and A02 are non-connection pins.)

(2) Dedicated instructions

There is no difference between MELSEC-Q series and MELSEC iQ-R series.

(3) Parameters

No.	MELSEC-Q series		MELSEC iQ-R series
1	Error time output mode	I/O assignment setting of PLC parameter	Module parameter
2	Switch setting	Intelligent function module parameter	
3	Parameter (each setting)		
4	Auto refresh		

(4) I/O signals and buffer memory areas

The layouts of I/O signals and buffer memory areas differ between MELSEC-Q series and MELSEC iQ-R series. If I/O signals and buffer memory areas are used in the MELSEC-Q series program, the program needs to be corrected.

No.	Signal name	MELSEC-Q series	MELSEC iQ-R series
1	XF	Fuse blown detection flag	Not supported

(5) Functions

There is no difference between MELSEC-Q series and MELSEC iQ-R series.

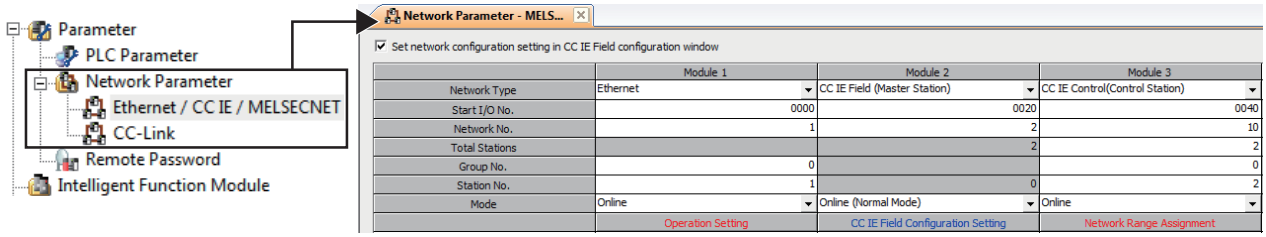
1.5 Communication Modules and Network Modules

1.5.1 Common items for communication modules and network modules

(1) Parameter setting

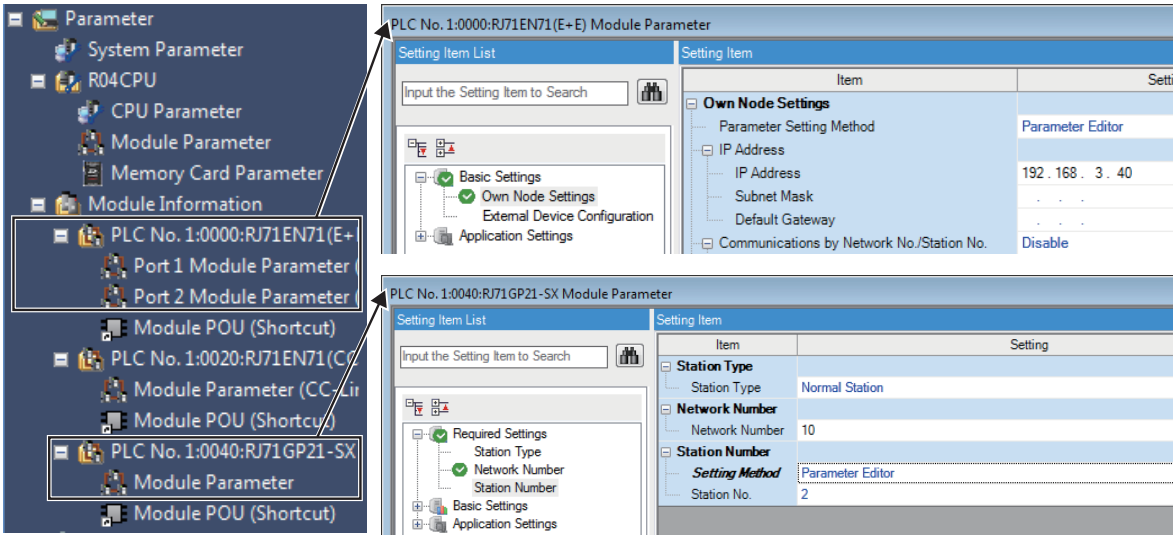
Parameters must be set for each MELSEC iQ-R series communication modules and network modules.

GX Works2



Network parameter setting window (GX Works2)

GX Works3

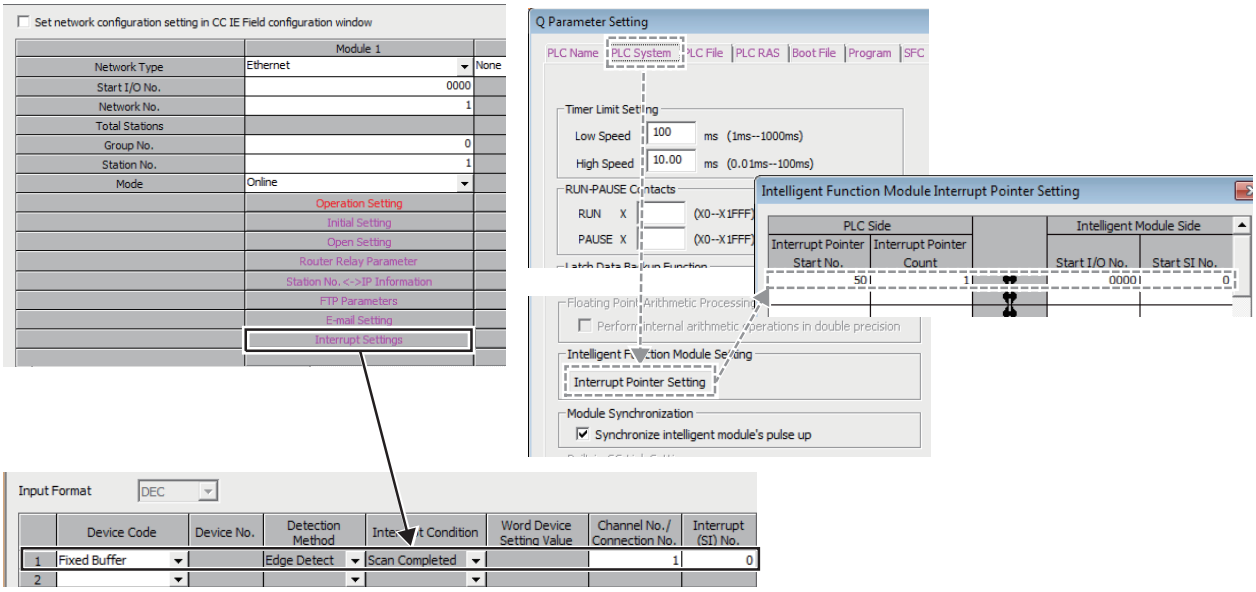


Module parameter setting window (GX Works3)

(2) Interrupt setting

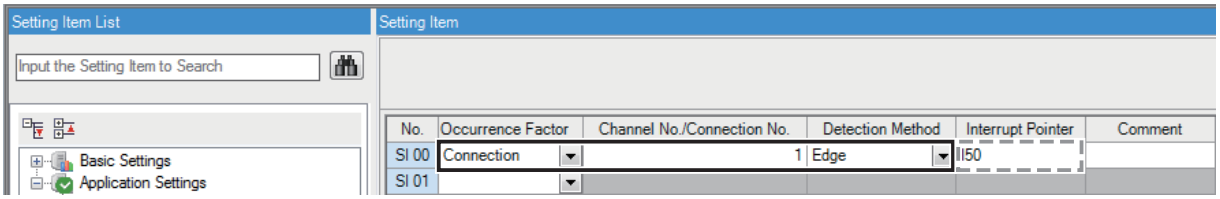
To execute an interrupt program in the MELSEC iQ-R series communication modules and network modules, set the interrupt pointer number in module parameter.

GX Works2



Network parameter setting window (GX Works2)

GX Works3



Module parameter setting window (GX Works3)

(3) Dedicated instructions (common to Ethernet/CC-Link IE Field/CC-Link IE Controller)

The MELSEC iQ-R series modules cannot specify 254 (Network specified in Valid Module During Other Station Access) as a network number in dedicated instructions. Specify the network number of the own station.

1.5.2 Ethernet interface modules

This section describes the differences of Ethernet interface modules between MELSEC-Q series (QJ71E71-100) and MELSEC iQ-R series (RJ71EN71).

For details on the MELSEC iQ-R series module, refer to the MELSEC iQ-R Ethernet User's Manual (Application) (SH-081257ENG).

(1) Dedicated instructions

No.	Classification		MELSEC-Q series	MELSEC iQ-R series	Reference
1	Ethernet instruction	Opening a connection	ZP.OPEN	ZP.OPEN	(a)
2		Clearing error information	ZP.ERRCLR	ZP.ERRCLEAR	-
3		Reading received e-mail	ZP.MRECV	Not supported	-
4		Sending e-mail	ZP.MSEND		

(a) ZP.OPEN

To perform open processing by using the control data, if the external device is specified with the MAC address, change the MAC address to the IP address for the MELSEC iQ-R series module.

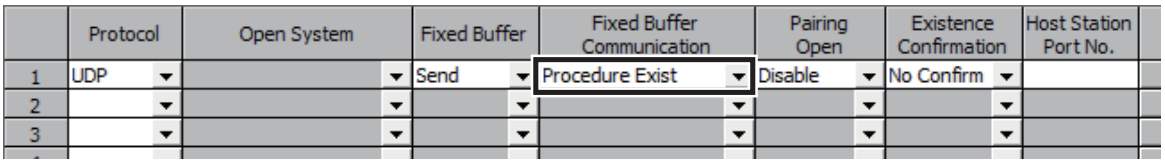
(2) Parameters

No.	Item	Set in:			Reference
		MELSEC-Q series		MELSEC iQ-R series	
1	SLMP (MC protocol) communication setting	Network parameter	Open setting	Module parameter	(a)
2	Random access buffer communication setting				(b)
3	Broadcast setting				(c)
4	Unused connection setting				(d)
5	TCP/IP connection module setting				(e)
6	Alive check setting				(f)
7	Online change setting		Operation setting		(g)
8	Send frame setting				(h)
9	Router relay (gateway) parameter setting		Router relay parameter		(i)
10	Interrupt setting		Interrupt setting		(j)

(a) SLMP (MC protocol) communication setting

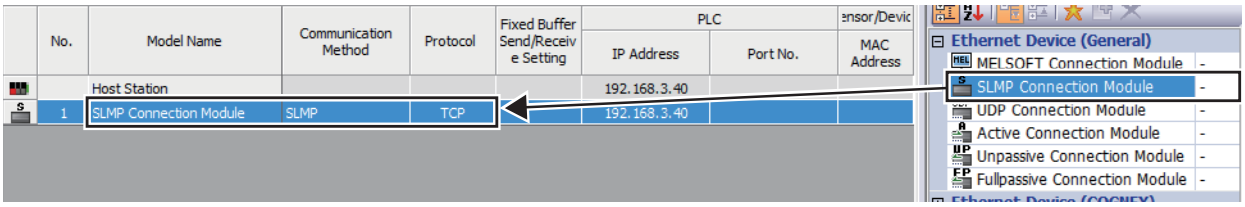
Select "SLMP Connection Module" for the MELSEC iQ-R series module.

GX Works2



Network parameter setting window (GX Works2)

GX Works3



Module parameter setting window (GX Works3)

(b) Random access buffer communication setting

Select the connection target module, and then select "Random Access Buffer" in "Communication Method" for the MELSEC iQ-R series module.

GX Works2

	Protocol	Open System	Fixed Buffer	Fixed Buffer Communication	Pairing Open	Existence Confirmation	Host Station Port No.
1	UDP		Send	Procedure Exist	Disable	No Confirm	
2							
3							

Network parameter setting window (GX Works2)

GX Works3

	No.	Model Name	Communication Method	Protocol	Fixed Buffer Send/Receive Setting	PLC IP Address	PLC Port No.	Sensor/Device MAC Address
		Host Station				192.168.3.40		
UDP	1	UDP Connection Module	Random Access	UDP		192.168.3.40		

Ethernet Device (General)
- MELSOFT Connection Module
- SLMP Connection Module
- UDP Connection Module
- Active Connection Module

Module parameter setting window (GX Works3)

(c) Broadcast setting

Select the connection target module, and then select "Broadcast Send" or "Broadcast Receive" in "Communication Method" for the MELSEC iQ-R series module.

GX Works2

	Protocol	Open System	Fixed Buffer	Fixed Buffer Communication	Pairing Open	Existence Confirmation	Host Station Port No.	Destination IP Address	Destination Port No.
1	UDP		Send	No Procedure	Disable	No Confirm		Broadcast Together	
2	UDP		Receive	No Procedure	Disable	No Confirm		Broadcast Together	
3									

IP Address Setting
Input Format: HEX
IP Address: FF FF FF FF

Network parameter setting window (GX Works2)

GX Works3

	No.	Model Name	Communication Method	Protocol	Fixed Buffer Send/Receive Setting	PLC IP Address	PLC Port No.	Sensor/Device MAC Address
		Host Station				192.168.3.40		
UDP	1	UDP Connection Module	Broadcast Send	UDP	Send	192.168.3.40		
UDP	2	UDP Connection Module	Broadcast Receive	UDP	Receive	192.168.3.40		

Ethernet Device (General)
- MELSOFT Connection Module
- SLMP Connection Module
- UDP Connection Module
- Active Connection Module
- Unpassive Connection Module

Module parameter setting window (GX Works3)

(d) Unused connection setting

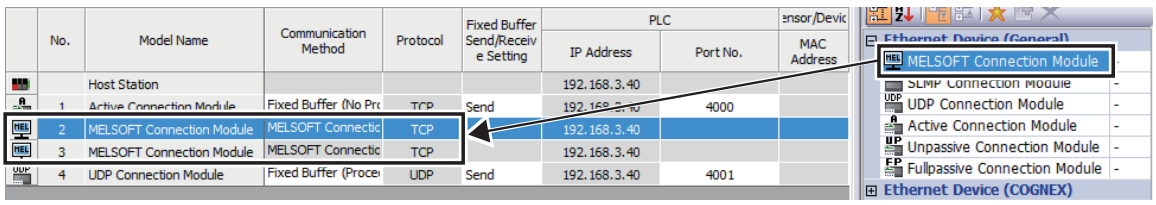
Set "MELSOFT Connection Module" to the connection number not used for the MELSEC iQ-R series module.

GX Works2

	Protocol	Open System	Fixed Buffer	Fixed Buffer Communication	Pairing Open	Existence Confirmation	Host Station Port No.	Destination IP Address	Destination Port No.
1	TCP	Active	Send	No Procedure	Disable	No Confirm	4000	192.168. 1. 1	6000
2									
3									
4	UDP		Send	Procedure Exist	Disable	No Confirm	4001	192.168. 1. 1	6001

Network parameter setting window (GX Works2)

GX Works3

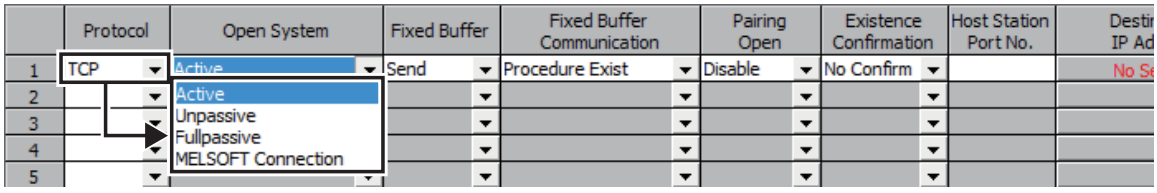


Module parameter setting window (GX Works3)

(e) TCP/IP connection module setting

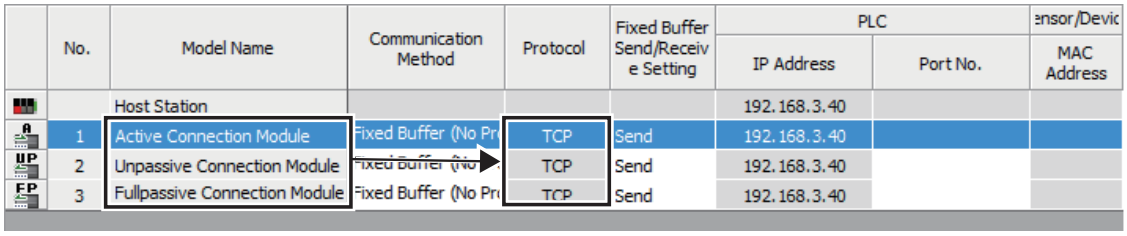
Setting the connected device automatically determines the protocol in the MELSEC iQ-R series module.

GX Works2



Network parameter setting window (GX Works2)

GX Works3

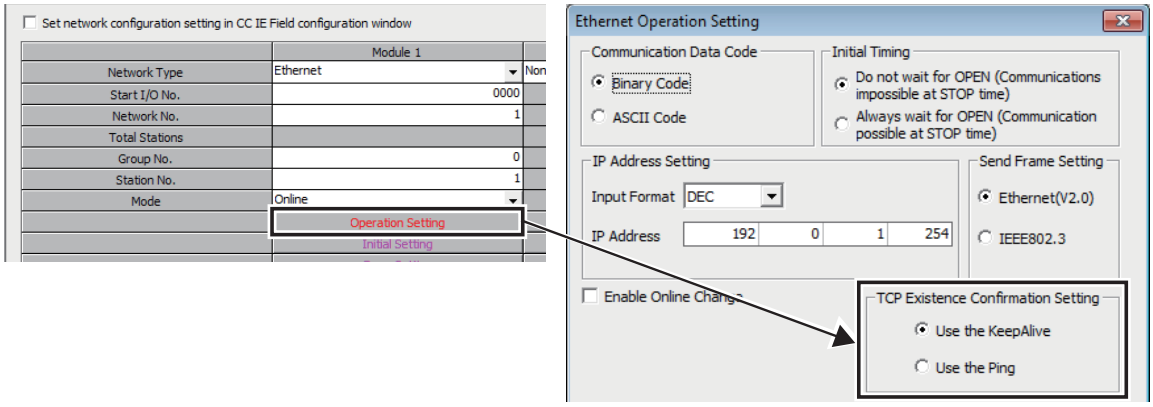


Module parameter setting window (GX Works3)

(f) Alive check ("Existence Confirmation") setting

For the MELSEC iQ-R series module, set whether to perform an alive check in "External Device Configuration" for each connection. For the TCP/IP alive check, only the KeepAlive command can be used.

GX Works2



Network parameter setting window (GX Works2)

GX Works3

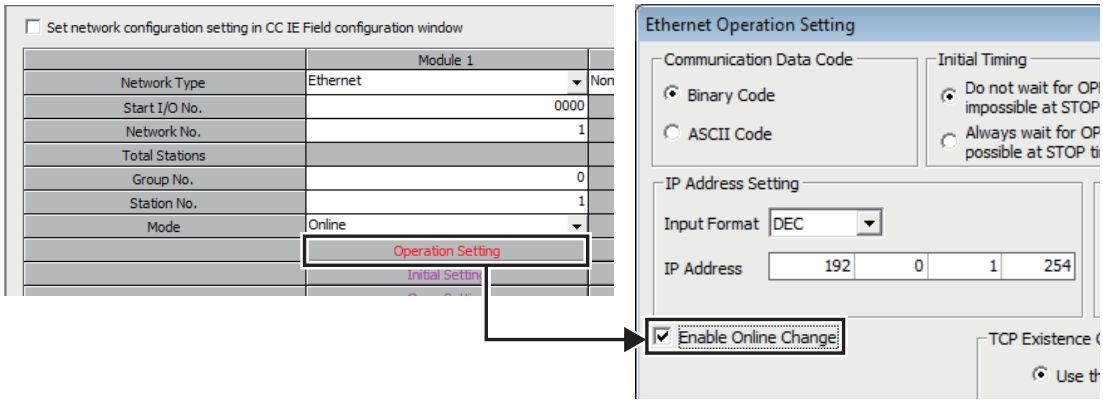
	No.	Model Name	Sensor/Device				Existence Confirmation
			IP Address	Port No.	Subnet Mask	Default Gateway	
		Host Station					
UDP	1	UDP Connection Module					UDP
UDP	2	UDP Connection Module					Do not confirm existence

Module parameter setting window (GX Works3)

(g) Online change setting

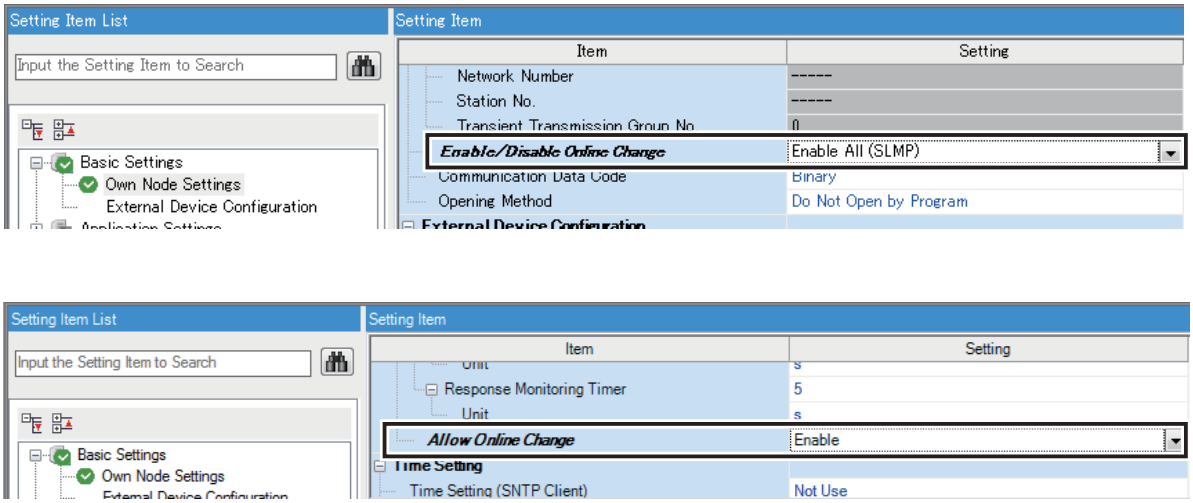
For the MELSEC iQ-R series module, enable the online change function in "Enable/Disable Online Change" under "Own Node Settings" of "Basic Settings" when the SLMP communications are performed. When the FTP server function is used, enable the function in "Allow Online Change" under "FTP Server Settings" of "Application Settings".

GX Works2



Module parameter setting window (GX Works2)

GX Works3



Module parameter setting window (GX Works3)

(h) Send frame setting

Only "Ethernet (V2.0)" frame can be used for the MELSEC iQ-R series module. "IEEE802.3" frame can be used for send data only.

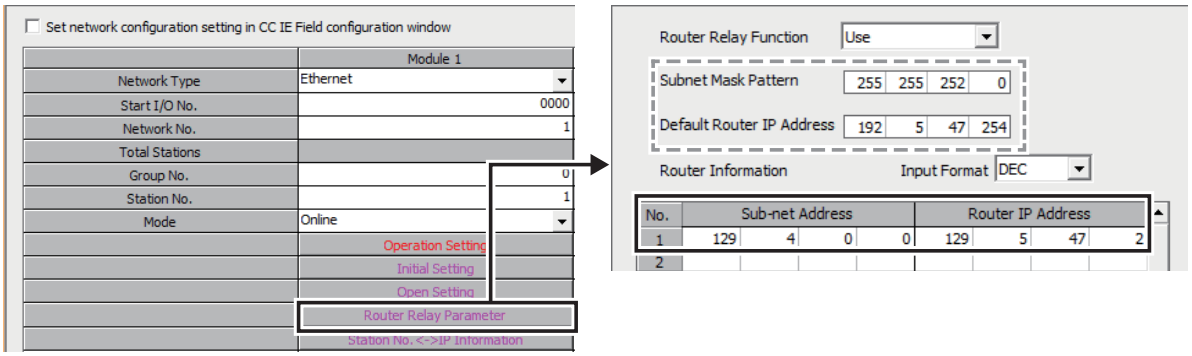
(i) Gateway parameter setting (router relay parameter)

Set "Subnet Mask" or "Default Gateway" under "Own Node Settings" of "Basic Settings" and set "Gateway Information" under "Gateway Parameter Settings" of "Application Settings" for the MELSEC iQ-R series module.

Names of some parameter setting items have been changed for the MELSEC iQ-R series module.

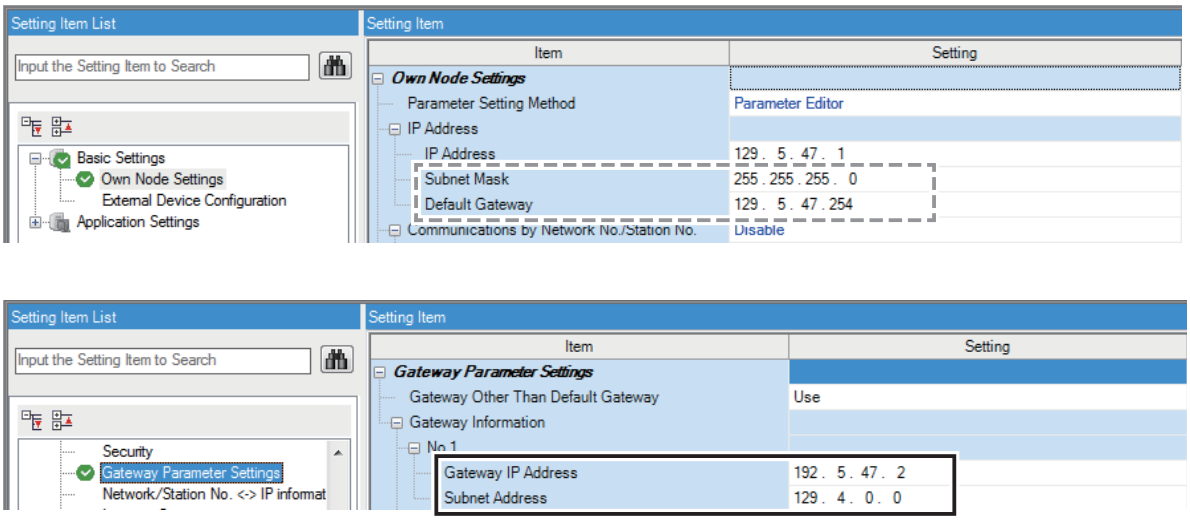
- "Subnet Mask Pattern" → "Subnet Mask"
- "Default Router IP Address" → "Default Gateway"
- "Router Information" → "Gateway Information"
- "Router IP Address" → "Gateway IP Address"

GX Works2



Network parameter setting window (GX Works2)

GX Works3



Module parameter setting window (GX Works3)

(j) Interrupt setting

Names of some parameter setting items have been changed for the MELSEC iQ-R series module.

- "RECVS Instruction" → "SEND Instruction Data Reception"
- "Fixed Buffer" → "Reception Connection"

(3) I/O signals and buffer memory areas

The layouts of I/O signals and buffer memory areas differ between MELSEC-Q series and MELSEC iQ-R series. If I/O signals and buffer memory areas are used in the MELSEC-Q series program, the program needs to be corrected.

(4) Functions

No.	Item	MELSEC-Q series	MELSEC iQ-R series	Reference
1	E-mail function	E-mail function	Not supported	-
2	Web function	Web function	Not supported	-
3	SLMP (MC protocol)	A-compatible 1E frame	Not supported	-

1.5.3 CC-Link IE Field Network master/local modules

This section describes the differences of CC-Link IE Field Network modules between MELSEC-Q series (QJ71GF11-T2) and MELSEC iQ-R series (RJ71GF11-T2 (RJ71EN71[*1])).

For details on the MELSEC iQ-R series module, refer to the MELSEC iQ-R CC-Link IE Field Network User's Manual (Application) (SH-081259ENG).

*1 The RJ71EN71 can be used as a CC-Link IE Field Network module or Ethernet module by switching the mode in parameter. Unless otherwise specified, the RJ71EN71 set to be used as a CC-Link IE Field Network module in parameter is called the RJ71GF11-T2 in this bulletin.

(1) System configuration

When the module other than the RJ71GF11-T2 is used as the master station, there may be additional restrictions to the serial number of the master station used.

Use any of the following modules as the master station.

Model	Serial number (first five digits)[*2]
QJ71GF11-T2	16012 or later
LJ71GF11-T2	16012 or later
Q81BD-J71GF11-T2	16012 or later
QS0J71GF11-T2	16022 or later

*2 If the serial number (first five digits) of the master station is earlier than the number described above, set "RX/RY Setting" in "Network Configuration Settings" of the master station to the following.

Action	Example
Set the largest end number in all stations to multiples of 32 minus 1 by changing the number of cyclic assignment points or adding a reserved station.	• Before change • After change
Set the largest end number in all stations to 7FH or less.	• Before change • After change

• Before change

No.	Model Name	STA#	Station Type	RX/RY Setting		
				Points	Start	End
0	Host Station	0	Master Station			
1	General Local Station	1	Local Station	32	0000	001F
2	NZ2GF2B1-16D	2	Remote Device Station	16	0020	002F
3	NZ2GF2B1-16T	3	Remote Device Station	16	0030	003F
4	NZ2GF2B-60AD4	4	Remote Device Station	16	0040	004F
5	NZ2GF2B1-16T	5	Remote Device Station	16	0050	005F
6	NZ2GF2B1-16T	6	Remote Device Station	16	0060	006F
7	General Local Station	7	Local Station	32	0070	008F

• After change

No.	Model Name	STA#	Station Type	RX/RY Setting		
				Points	Start	End
0	Host Station	0	Master Station			
1	General Local Station	1	Local Station	32	0000	001F
2	NZ2GF2B1-16D	2	Remote Device Station	16	0020	002F
3	NZ2GF2B1-16T	3	Remote Device Station	16	0030	003F
4	NZ2GF2B-60AD4	4	Remote Device Station	16	0040	004F
5	NZ2GF2B1-16T	5	Remote Device Station	16	0050	005F
6	NZ2GF2B1-16T	6	Remote Device Station	16	0060	006F
7	General Local Station	7	Local Station	48	0070	009F

• Before change

No.	Model Name	STA#	Station Type	RX/RY Setting		
				Points	Start	End
0	Host Station	0	Master Station			
1	General Local Station	1	Local Station	32	0000	001F
2	NZ2GF2B1-16D	2	Remote Device Station	16	0020	002F
3	NZ2GF2B1-16T	3	Remote Device Station	16	0030	003F
4	NZ2GF2B-60AD4	4	Remote Device Station	16	0040	004F
5	NZ2GF2B1-16T	5	Remote Device Station	16	0050	005F
6	NZ2GF2B1-16T	6	Remote Device Station	16	0060	006F
7	General Local Station	7	Local Station	32	0070	008F

• After change

No.	Model Name	STA#	Station Type	RX/RY Setting		
				Points	Start	End
0	Host Station	0	Master Station			
1	General Local Station	1	Local Station	32	0000	001F
2	NZ2GF2B1-16D	2	Remote Device Station	16	0020	002F
3	NZ2GF2B1-16T	3	Remote Device Station	16	0030	003F
4	NZ2GF2B-60AD4	4	Remote Device Station	16	0040	004F
5	NZ2GF2B1-16T	5	Remote Device Station	16	0050	005F
6	NZ2GF2B1-16T	6	Remote Device Station	16	0060	006F
7	General Local Station	7	Local Station	16	0070	007F

(2) Dedicated instructions

There is no difference between MELSEC-Q series and MELSEC iQ-R series.

(3) Parameters

No.	MELSEC-Q series		MELSEC iQ-R series			Reference
1	Network parameter	Network configuration setting	Module parameter	Basic setting	Network configuration setting	(a)
2		Mode		Application setting	Module operation mode setting	(b)

(a) Network configuration setting

For the MELSEC-Q series module, the configuration setting can be set in table format and CC IE Field configuration window. However, for the MELSEC iQ-R series module, the configuration setting can be set only in the CC IE Field configuration window.

(b) Module operation mode setting

For the MELSEC iQ-R series module, the hardware test and self-loopback test are integrated into the module communication test.

The loop test cannot be used. Check the network status in the CC-Link IE Field Network diagnostics window of GX Works3.

No.	Item	MELSEC-Q series	MELSEC iQ-R series
1	Hardware test	Hardware test	Module communication test
2	Self-loopback test	Self-loopback test	
3	Loop test	Loop test	Not supported

(4) Link special relay (SB) and link special register (SW)

The SB/SW number assignment differs between the MELSEC-Q series and MELSEC iQ-R series modules. If SB/SW is used in the MELSEC-Q series program, the program needs to be corrected.

Item	MELSEC-Q series	MELSEC iQ-R series
Event history clear acceptance status/completion status	SB0061, SB0062	N/A
Event history status	SB007A	N/A
Event count	SW007A	N/A
Hardware test completion status	SB0090, SB0091	N/A
Self-loopback test completion status, normal/abnormal end	SB0092, SB0093	N/A
Loop test completion status, normal/abnormal end	SB0094, SB0095	N/A
Loop test request accept status	SB009A	N/A
Loop test result	SW0194	N/A
Loop test error station	SW01A0 to SW01A7	N/A

(5) Functions

There is no difference between MELSEC-Q series and MELSEC iQ-R series.

1.5.4 CC-Link system master/local modules

This section describes the differences of CC-Link system master/local modules between MELSEC-Q series (QJ61BT11N) and MELSEC iQ-R series (RJ61BT11).

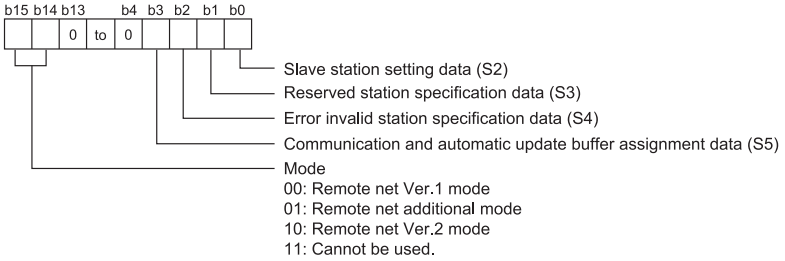
For details on the MELSEC iQ-R series module, refer to the MELSEC iQ-R CC-Link System Master/Local Module User's Manual (Application) (SH-081270ENG).

(1) Dedicated instructions

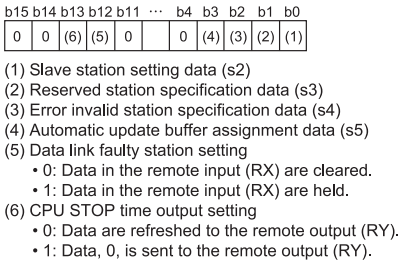
No.	Classification	MELSEC-Q series	MELSEC iQ-R series	Reference
1	Setting network parameters of the master station	RLPASET	RLPASET	(a)

(a) RLPASET

For the MELSEC-Q series module, the mode is set in b14 and b15 of the device (S1+1) (Setting flag) in the control data. However, for the MELSEC iQ-R series, set 0 in b14 and b15 because the mode is set in module parameter.


b15 b14 b13 b4 b3 b2 b1 b0
0 to 0
Slave station setting data (S2)
Reserved station specification data (S3)
Error invalid station specification data (S4)
Communication and automatic update buffer assignment data (S5)
Mode
00: Remote net Ver.1 mode
01: Remote net additional mode
10: Remote net Ver.2 mode
11: Cannot be used.

Setting data of the QJ61BT11N


b15 b14 b13 b12 b11 ⋯ b4 b3 b2 b1 b0
0 0 (6) (5) 0 0 (4) (3) (2) (1)
(1) Slave station setting data (s2)
(2) Reserved station specification data (s3)
(3) Error invalid station specification data (s4)
(4) Automatic update buffer assignment data (s5)
(5) Data link faulty station setting
• 0: Data in the remote input (RX) are cleared.
• 1: Data in the remote input (RX) are held.
(6) CPU STOP time output setting
• 0: Data are refreshed to the remote output (RY).
• 1: Data, 0, is sent to the remote output (RY).

Setting data of the RJ61BT11N

(2) Parameters

No.	Item	MELSEC-Q series	MELSEC iQ-R series	Reference
1	Station number setting/transmission speed	Set with the rotary switch.	Set in module parameters.	-
2	Mode setting	Set in network parameter or switch setting.	Set in module parameters.	-
3	Refresh	Set the start number of the refresh target device.	Set the start number and end number, or the start number and number of points of the refresh target device.	-
4	CC-Link configuration setting	Set in the station information settings (table format) or CC-Link configuration setting.	Set in the CC-Link configuration setting.	-

(3) Link special relay (SB) and link special register (SW)

The SB/SW number assignment differs between the MELSEC-Q series and MELSEC iQ-R series modules. Also, some SB/SW areas are used for different purposes. If SB/SW is used in the MELSEC-Q series program, the program needs to be corrected.

Item	MELSEC-Q series	MELSEC iQ-R series
Switch setting status	SB006A	N/A
Own station switch change detection	SB0078	N/A
Automatic CC-Link startup execution result	SW0052	N/A
Switch setting status	SW006A	N/A
Remote device station initialization procedure registration execution individual information	SW0110 to SW011F	Un\G23680 to Un\G23743

(4) Buffer memory areas

The layout of buffer memory areas differs between MELSEC-Q series and MELSEC iQ-R series.

If buffer memory areas are used in the MELSEC-Q series program, the program needs to be corrected.

(5) Functions

No.	Item	MELSEC-Q series	MELSEC iQ-R series	Reference
1	Mode setting	Remote net additional mode	Not supported	-
2	Automatic CC-Link startup function	Automatic CC-Link startup	Not supported	-

1.5.5 Serial communication modules

This section describes the differences of serial communication modules between MELSEC-Q series (QJ71C24N/QJ71C24N-R2/QJ71C24N-R4) and MELSEC iQ-R series (RJ71C24/RJ71C24-R2/RJ71C24-R4).

For details on the MELSEC iQ-R series modules, refer to the MELSEC iQ-R Serial Communication Module User's Manual (Application) (SH-081251ENG).

(1) Dedicated instructions

There is no difference between MELSEC-Q series and MELSEC iQ-R series.

(2) Parameters

No.	MELSEC-Q series		MELSEC iQ-R series
1	Switch setting	I/O assignment setting of PLC parameter	Module parameter
2	Various control specification	Intelligent function module parameter	
3	Programmable controller CPU monitoring function		
4	User frame specification		
5	Auto refresh		
6	Modem function		Module extension parameter*1
7	User frame content		

*1 Pager receiver specification of data for modem connection registration and refresh settings for confirmation of notification status cannot be used.

- Writing parameters

The MELSEC iQ-R series allows parameters to be written to the CPU module as well as the serial communication module. This makes it possible to control parameters centrally by the CPU module, thereby making it easier to change the module in maintenance.

The module parameters and module extension parameters stored in the CPU module are reflected to the serial communication module when the system is powered on, the CPU module is reset, or the operating status of the CPU module is changed from STOP to RUN.

(3) I/O signals

The layout of I/O signals differs between MELSEC-Q series and MELSEC iQ-R series.

If I/O signals are used in the MELSEC-Q series program, the program needs to be corrected.

No.	Signal name	MELSEC-Q series	MELSEC iQ-R series
1	X15	Notification normal completion	Not supported
2	X16	Notification abnormal completion	Not supported
3	X19	Flash ROM system setting write completion	Not supported
4	YE	CH1 ERR. clear request	ERR. clear request
5	YF	CH2 ERR. clear request	Not supported
6	Y14	Notification-issued request	Not supported
7	Y19	Flash ROM system request	Not supported

(4) Buffer memory areas

The layout of buffer memory areas differs between MELSEC-Q series and MELSEC iQ-R series.

If buffer memory areas are used in the MELSEC-Q series program, the program needs to be corrected.

(5) Functions

There is no difference between MELSEC-Q series and MELSEC iQ-R series.

2 SPECIFICATIONS DIFFERENCES BETWEEN MELSEC-Q SERIES AND MELSEC iQ-R SERIES

2.1 CPU Modules (QnUDVCPU and RCPU)

No.	Item			QnUDVCPU		RnCPU	
				Availability	Remarks	Availability	Remarks
1	System configuration	Number of mountable modules		○	64 maximum	○	64 maximum
2			Ethernet module	○	4 maximum	○	No restrictions
3			CC-Link IE Controller Network module	○	4 maximum	○	8 maximum/32 maximum (in a multiple CPU system)
4			CC-Link IE Field Network module	○	8 maximum/32 maximum (in a multiple CPU system)	○	8 maximum/32 maximum (in a multiple CPU system)
5			CC-Link module	○	8 maximum/32 maximum (in a multiple CPU system)	○	8 maximum/32 maximum (in a multiple CPU system)
6		Number of mountable modules (Q series)	MELSECNET/H module	○	4 maximum	×	
7			Interrupt module (no setting by the engineering tool)	○	1 maximum/4 maximum (in a multiple CPU system)	○	1 maximum/4 maximum (in a multiple CPU system)
8		Mountable module	MELSEC iQ-R series module	×		○	-
9			MELSEC-Q series module	○		○	Some modules have restrictions.
10			MELSEC-AnS/A series module	○	Some modules have restrictions.	×	
11			Bus-connection of GOT	○		×	(Connect the GOT over Ethernet.)
12		Extension level		○	7 maximum (Set the level with a connector pin.)	○	7 maximum (The level is automatically recognized.)
13		Extension cable length		○	13.2m maximum	○	20m maximum
14	Programming	Programming language	Ladder diagram (LD)	○		○	
15			Sequential function chart (SFC)	○		×	
16			Structured text (ST)	○		○	
17			Function block diagram (FBD)/Structured ladder	○		×	
18		Function block (FB)		○		○	
19		Program execution type	Initial execution type	○		○	
20			Scan execution type	○		○	
21			Fixed scan execution type	○		○	
22			Standby type	○		○	
23			Event execution type	×		○	Newly added.
24		Number of I/O points [point]		○	4096	○	4096
25		User device		○		○	The device assignment differs.
26		File register		○		○	Extended data register (D) and extended link register (W) are not provided.
27		System device		○		○	The SM/SD number assignment differs.
28		Constant scan [ms]		○	0.5 to 2000 (in increments of 0.1ms)	○	0.2 to 2000 (in increments of 0.1ms)
29		Fixed scan interrupt	I28 to I31 [ms]	○	0.5 to 1000 (in increments of 0.5ms)	○	0.5 to 1000 (in increments of 0.5ms)
30			I49 [ms]	○	0.1 to 1.0 (in increments of 0.1ms)	○	0.05 to 1000 (in increments of 0.05ms)
31	Memory capacity	Program capacity [step]		○	30K/40K/60K/130K/260K	○	40K/80K/160K/320K/1200K
32		Program memory [byte]		○	120K/160K/240K/520K/1040K	○	160K/320K/640K/1280K/4800K
33		Standard RAM, device/label memory [byte]		○	192K/256K/768K/1024K/1280K	○	400K/1188K/1720K/2316K/3380K
34		Standard ROM, data memory [byte]		○	1025.5K/1025.5K/1025.5K/2051K/4102K	○	2M/5M/10M/20M/40M
35	Processing time	Processing time	LD instruction [ns]	○	1.9	○	0.98
36			OUT instruction [ns]	○	3.9	○	1.96
37			MOV instruction [ns]	○	3.9	○	1.96
38		PC MIX value [Instruction/μs]		○	220	○	419

No.	Item			QnUDVCPU		RnCPU	
				Availability	Remarks	Availability	Remarks
39	Instruction	Sequence instruction		○		○	
40		Basic instruction		○		○	
41			Converting 16-bit binary data to 32-bit floating point type real number	○	FLT	○	INT2FLT
42			Converting 32-bit binary data to 32-bit floating point type real number	○	DFLT	○	DINT2FLT
43			Converting 16-bit binary data to 64-bit floating point type real number	○	FLTD	○	INT2DBL
44			Converting 32-bit binary data to 64-bit floating point type real number	○	DFLTD	○	DINT2DBL
45			Converting 32-bit floating point type real number to 16-bit binary data	○	INT	○	FLT2INT
46			Converting 32-bit floating point type real number to 32-bit binary data	○	DINT	○	FLT2DINT
47			Converting 64-bit floating point type real number to 16-bit binary data	○	INTD	○	DBL2INT
48			Converting 64-bit floating point type real number to 32-bit binary data	○	DINTD	○	DBL2DINT
49			Converting 16-bit binary data to 32-bit binary data	○	DBL	○	INT2DINT
50			Converting 32-bit binary data to 16-bit binary data	○	WORD	○	DINT2INT
51			Converting 32-bit floating point type real number to 64-bit floating point type real number	○	ECON	○	FLT2DBL
52			Converting 64-bit floating point type real number to 32-bit floating point type real number	○	EDCON	○	DBL2FLT

No.	Item			QnUDVCPU		RnCPU	
				Availability	Remarks	Availability	Remarks
53	Instruction	Application instruction		○		○	
54			Converting hexadecimal ASCII code to 16-bit binary data	○	HEX	○	ASC2INT
55			Converting 16-bit binary data to hexadecimal ASCII code	○	ASC	○	INT2ASC
56			Calculating the square root of floating-point data (single precision)	○	SQR	○	ESQRT
57			Calculating the square root of floating-point data (double precision)	○	SQRD	○	EDSQRT
58			Calculating the square root of BCD 4-digit	○	BSQR	○	BSQRT
59			Calculating the square root of BCD 8-digit	○	BDSQR	○	BDSQRT
60			Ramp signal instruction	○	RAMP	○	RAMPQ
61			Searching 16-bit binary data	○	SER	○	SERDATA
62			Searching 32-bit binary data	○	DSER	○	DSERDATA
63			Sorting 16-bit binary data	○	SORT	○	SORTD
64			Sorting 32-bit binary data	○	DSORT	○	DSORTD
65			Converting time data from hour/minute/second to second	○	SECOND	○	TIME2SEC
66			Converting time data from second to hour/minute/second	○	HOUR	○	SEC2TIME
67			Reading 32-bit binary data (buffer memory access)	○	DFRO	○	DFROM
68			Disabling interrupt programs	○	DI (without execution condition)	○	DI (with execution condition)
69			Enabling interrupt programs	○	EI (without execution condition)	○	EI (with execution condition)
70			Selecting refresh to be performed	○	COM (without execution condition)	○	COM (with execution condition)
71			Selecting refresh to be performed (with execution condition)	○	CCOM	○	COM
72			Reading device comment	○	COMRD	×	
73			Setting a comment file name	○	QCDSET	×	
74			High-speed block transfer of file register	○	RBMOV	×	Use the BMOV instruction instead.
75			Writing data to host CPU shared memory	○	TO/S.TO	○	TO
76			Reading module information	○	UNIRD	○	UNIINFRD

No.	Item				QnUDVCPU		RnCPU	
					Availability	Remarks	Availability	Remarks
77	Function	Clock function			○		○	The time zone setting has been added.
78		LED indication			○		○	
79		Scan monitoring function (WDT setting)			○		○	
80		Interrupt function			○		○	The multiple interrupt function has been added.
81			High-speed interrupt (I49)		○	The high-speed I/O refresh function and high-speed transfer function are supported.	○	The high-speed I/O refresh function and high-speed transfer function are not supported.
82		Database function			×		○	Newly added.
83		Device			○		○	
84			Local device		○		○	Local devices should be described with "#".
85			Device initial value		○		○	
86		Label			○		○	
87			Local label		○		○	
88			Label initial value (global label/local label)		×		○	Newly added.
89			Label access setting from external device		×		○	Newly added.
90		Latch function			○		○	
91			Latch data backup to standard ROM		○		×	Use the data backup/restoration function of a GOT.
92		Boot operation			○		○	
93		Service processing setting			○		○	
94		Access by using A-compatible 1C/1E frame (SM/SD areas after A to Q conversion (SM1000 to SM1255, SD1000 to SD1255))			○		×	
95		Multiple CPU function	I/O sharing when using multiple CPUs		○		○	
96			Error time output mode		○		○	
97			Multiple CPU synchronized startup		○		○	
98			Multiple CPU clock synchronization		○		○	
99			Communications by refresh		○	Data are refreshed during END processing.	○	Data are refreshed during END processing.
100			Access to CPU shared memory/CPU buffer memory		○	FROM/TO instructions, cyclic transmission area device (U3En/G0 and later)	○	FROM/TO instructions, CPU buffer memory access device (U3En/G0 and later)
101			High-speed transmission between CPUs/fixed scan transmission	Multiple CPU synchronous interrupt (I45) [ms]	○	0.88 (fixed)	○	0.10 to 10.00 (variable)
102				Communications by refresh	○	Data are refreshed during END processing.	○	Data are refreshed at execution of the interrupt pointer, I45.
103				Area access method	○	FROM/TO instructions, cyclic transmission area device (U3En/G1000 and later)	○	CPU buffer memory access device (U3En/HG0 and later)
104			Multiple CPU dedicated instruction		○		○	
105		Sampling trace			○		×	Use the trigger logging of the data logging function.
106		Data logging function	Trigger logging and continuous logging		○		○	
107			Saving format of the data logging file		○	CSV format	○	Unicode text file format, binary file format
108			File transfer function		○		×	
109		Scan time measurement			○		×	
110		Diagnostics function	Self-diagnostics function		○		○	The error code system has been changed.
111				Error clear	○	Continuation errors can be cleared by types.	○	Continuation errors are batch-cleared.

No.	Item			QnUDVCPU		RnCPU	
				Availability	Remarks	Availability	Remarks
112	Function	History function	Error history	○		○	The event history function has been added.
113		Monitor function	Monitor	○		○	
114			Monitor condition setting	○		×	
115			External input/output forced on/off function	○		×	
116			Executional conditioned device test	○		×	
117		Online change	Online change (ladder mode)	○		○	
118			Online change (files)	○		○	
119			Change TC setting value	○		×	Use the watch function of GX Works3.
120		CPU module change function with memory card		○		×	Use the data backup/restoration function of a GOT.
121		Security	File password (file password 32)	○	4 to 32 characters (variable)	○	6 to 32 characters (variable)
122			Remote password	○	4 characters (fixed)	○	6 to 32 characters (variable)
123		Built-in Ethernet function	Connection with MELSOFT products and GOT	○		○	
124			Communications using MC protocol/SLMP	○		○	
125			Socket communications	○		○	
126			Communications using the predefined protocol	○		○	
127			Time setting function (SNTP client)	○		○	
128			File transfer function (FTP server)	○		○	
129			IP address change function	○		○	

2.2 Power Supply Modules, Base Units, I/O Modules

No.	Item				MELSEC-Q series		MELSEC iQ-R series	
					Availability	Remarks	Availability	Remarks
1	Power supply module	Rated output current			-	6.0A	-	6.5A
2		Terminal block screw size			-	M3.5	-	M4.0
3	Base unit	Extension cable connecting method			-	Fixing screw	-	Lock button
4		Extension level setting			○	Set with a connector pin.	×	Automatically recognized.
5		DIN rail adapter			-	MELSEC-Q series DIN rail adapter	-	MELSEC iQ-R series DIN rail adapter
6	I/O module	Input module	Input response time setting		○	Supported (The set value applies to all points.)	○	Supported (The time value can be set to each point.)
7			OFF voltage/OFF current	32-point/64-point type	-	11V or lower/1.7mA or lower	-	6V or lower/1mA or lower
8			Response time	Set value: 0.1	○	QX40-S1: 0.20ms	○	0.35ms
			ON→OFF maximum	Set value: 0.2	○	QX40-S1: 0.30ms	○	0.40ms
9			Interrupt function		○	QI60 (All points are set as interrupt pointers.)	○	Input module (An interrupt pointer can be set to the specified point.)
10		I/O combined module	OFF voltage/OFF current		-	11V or lower/1.7mA or lower	-	6V or lower/1mA or lower

2.3 Intelligent Function Modules

2.3.1 Analog-digital converter modules

No.	Item		Q64AD, Q68ADV, Q68ADI		R60AD4, R60ADV8, R60ADI8	
			Availability	Remarks	Availability	Remarks
1	Performance specifications	Digital output (resolution)	-	16-bit signed binary value Normal resolution mode: -4096 to 4095 High resolution mode: -12288 to 12287, -16384 to 16383	-	16-bit signed binary value -32768 to 32767
2		Accuracy (accuracy for the maximum digital output value)	-	Ambient temperature 0 to 55ºC With temperature drift correction: ±0.3% Without temperature drift correction: ±0.4%	-	Ambient temperature 0 to 55ºC ±0.3%
3	Function	Analog input range	×	Extension range not supported	○	Selectable ranges: 1 to 5V (extension) and 4 to 20mA (extension)
4		Temperature drift compensation	○		×	None (because of the enhanced accuracy eliminating the need for temperature drift compensation)
5		I/O signals	-	X1: Temperature drift compensation flag X8: High resolution mode status flag XC: Use prohibited	-	X1: Use prohibited X8: Alert output signal XC: Input signal error detection signal
6		A/D conversion method	○	Moving average and primary delay filter not supported Time average: 2 to 1500ms	○	Moving average and primary delay filter can be selected. Time average: 2 to 5000ms
7		Scaling function	×		○	
8		Shift function	×		○	
9		Digital clipping function	×		○	
10		Difference conversion function	×		○	
11		Alert output function (process alarm)	×		○	
12		Alert output function (rate alarm)	×		○	
13		Input signal error detection function	×		○	
14		Logging function	×		○	
15		Inter-module synchronization function	×		○	
16		Error history function	×		○	
17		Event history function	×		○	
18		Interrupt function	×		○	

2.3.2 Digital-analog converter modules

No.	Item		Q64DA, Q68DAV, Q68DAI		R60DA4, R60DAV8, R60DAI8	
			Availability	Remarks	Availability	Remarks
1	Performance specifications	Digital input (resolution)	-	16-bit signed binary value Normal resolution mode: -4096 to 4095 High resolution mode: -12288 to 12287, -16384 to 16383	-	16-bit signed binary value -32768 to 32767
2	Functions	I/O signals	-	X7: Use prohibited X8: High resolution mode status flag XD: Synchronous output mode flag XE: Use prohibited YD: Synchronous output request YE: Use prohibited	-	X7: External power supply READY flag X8: Use prohibited XD: Disconnection detection signal XE: Alert output signal YD: Disconnection detection clear request YE: Alert output clear request
3		Buffer memory	○		○	
4		Scaling function	×		○	
5		Shift function	×		○	
6		Alert output function	×		○	
7		Rate control function	×		○	
8		Interruption of external power supply detection function	×		○	
9		Synchronous output function	○		×	
10		Wave output function	×		○	
11		Inter-module synchronization function	×		○	
12		Error history function	×		○	
13		Event history function	×		○	
14		Interrupt function	×		○	

2.3.3 Positioning modules

No.	Item		QD75P2N, QD75P4N, QD75D2N, QD75D4N		RD75P2, RD75P4, RD75D2, RD75D4	
			Availability	Remarks	Availability	Remarks
1	Performance specifications	Maximum output pulse (differential driver type only)	-	4000000 pulse/s	-	5000000 pulse/s
2		Manual pulse generator 1 pulse input magnification	-	1 to 1000 times	-	1 to 10000 times
3		Torque limit	-	1 to 500	-	1 to 5000
4	Function	Override function	○	Zero percent setting is disabled.	○	Zero percent setting is enabled.
5		Operation during uncompleted OPR	○	Positioning operation is possible even during uncompleted OPR.	○	Whether to enable or disable positioning start during uncompleted OPR can be selected.
6		Machine OPR method (data setting method)	×	Data setting method is not supported.	○	Data setting method is supported.
7		M code output function	○	Switching of WITH/AFTER is possible only when PLC READY signal turns on from off.	○	Switching of WITH/AFTER is possible for each positioning data.
8		Interpolation speed specification method (switching for each positioning data)	×	Switching for each positioning data is not allowed.	○	
9		ABS direction in degrees (switching for each positioning data)	×	Switching for each positioning data is not allowed.	○	
10		Electronic gear function	○	Only 16 bit areas relating to the electronic gear of parameters can be used.	○	Either 16 bit or 32 bit areas relating to the electronic gear of parameters can be selected.
11		Flash ROM write information	○	Number of write accesses to flash ROM	○	Number of write accesses and date of write accesses to flash ROM
12		Differential driver common terminal (differential driver type only)	×	A separate connector is required.	○	The terminal is integrated to the connector for external devices.
13		Speed-position or position-speed switching control	○	Switching control is enabled by the external signal (Speed-position or position-speed switching signal).	○	Switching control is enabled by the external signal (Speed-position or position-speed switching signal) or [Cd.46] Speed-position switching command.
14		Start time	-	1.5ms	-	0.3ms
15		Degree axis command speed	-	0 to 20000000.000	-	0 to 30000000.000
16		Error reset	○	Axis error reset	○	All axes error reset, Axis error reset
17		Module access flag (X01)	○	This flag turns on when access from the CPU module to the QD75N is enabled by powering on or resetting the CPU module. * The signal name is "Synchronization flag".	○	·This flag turns off while the CPU module is in STOP state. ·This flag turns on when access from the CPU module to the QD75N is enabled by changing the operating status of the CPU module to RUN.
18		Storing parameters to the CPU module	×	The parameters stored in the flash ROM are enabled when the system is powered on.	○	Module parameters: The module parameters stored in the CPU module are enabled when the system is powered on or the operating status of the CPU module is changed from STOP to RUN. Extension parameters: The extension parameters in the storage destination specified in the extension parameter storage setting are enabled when the system is powered on or the operating status of the CPU module is changed from STOP to RUN.

2.3.4 High-speed counter modules

(1) With DC input

No.	Item	Item			QD62, QD62E		RD62P2, RD62P2E	
					Availability	With DC input	Availability	With DC input
1	Performance specifications	Counting speed switch setting		Multiple of 1	-	10kpps, 100kpps, 200kpps	-	10kpps, 100kpps, 200kpps
				Multiple of 2	-		-	
				Multiple of 4	-		-	
2		Counter	Maximum counting speed		-	200kpps	-	200kpps
			Counting range		-	32-bit signed binary value (-2147483648 to 2147483647)	-	32-bit signed binary value (-2147483648 to 2147483647)
			Type		-	UP/DOWN preset counter + Ring counter function	-	UP/DOWN preset counter + Ring counter function
3		Coincidence output	Comparison range		-	32-bit signed binary value	-	32-bit signed binary value
			Comparison result		-	Set value < Count value, Set value = Count value, Set value > Count value	-	Set value < Count value, Set value = Count value, Set value > Count value
4	Function	External input	Preset		×		○	1 point (preset)/channel
				Filter setting		Not allowed		Allowed
			Function		×		○	1 point/channel
				Filter setting		Not allowed		Allowed
5		External output	Coincidence output		○	2 points: Transistor (source type) output, 2 points/channel	○	2 points (high-speed): Transistor (source type) output, 2 points (high-speed)/channel
6		Pulse measurement	Measurement item		×		○	Pulse width (H width, L width, rise→rise, fall→fall)
			Measurement resolution					100ns
			Number of measurement points					1 point/channel
7		PWM output	Output frequency range	Coincidence output (high-speed)	×		○	DC to 200kHz maximum
			Duty ratio					Desired value (The value can be set in increments of 0.1μs.)
			Changing settings during operation					○
			Number of output points					2 points/channel
8		Inter-module synchronization function			×		○	

(2) With differential input

No.	Item	Item			QD62D		RD62D2	
					Availability	With differential input	Availability	With differential input
1	Performance specifications	Counting speed switch setting		Multiple of 1	-	10kpps, 100kpps, 200Kpps, 500kpps	-	10kpps, 100kpps, 200Kpps, 500kpps, 1Mpps, 2Mpps
				Multiple of 2	-		-	10kpps, 100kpps, 200Kpps, 500kpps, 1Mpps, 2Mpps, 4Mpps
				Multiple of 4	-		-	10kpps, 100kpps, 200Kpps, 500kpps, 1Mpps, 2Mpps, 4Mpps, 8Mpps
2		Counter	Maximum counting speed		-	500kpps	-	8Mpps (in 2-phase multiple of 4)
			Counting range		-	32-bit signed binary value (-2147483648 to 2147483647)	-	32-bit signed binary value (-2147483648 to 2147483647)
			Type		-	UP/DOWN preset counter + Ring counter function	-	UP/DOWN preset counter + Ring counter function
3		Coincidence output	Comparison range		-	32-bit signed binary value	-	32-bit signed binary value
			Comparison result		-	Set value < Count value, Set value = Count value, Set value > Count value	-	Set value < Count value, Set value = Count value, Set value > Count value
4	Function	External input	Preset		×		○	1 point (preset)/channel
				Filter setting		Not allowed		Allowed
			Function		×		○	1 point/channel
				Filter setting		Not allowed		Allowed
5		External	Coincidence output		○	2 points	○	2 points (high-speed)
6		Pulse measurement	Measurement item		×		○	Pulse width (H width, L width, rise→rise, fall→fall)
			Measurement resolution					100ns
			Number of measurement points					1 point/channel
7		PWM output	Output frequency range	Coincidence output (high-speed)	×		○	DC to 200kHz maximum
			Duty ratio					Desired value (The value can be set in increments of 0.1μs.)
			Changing settings during operation					○
			Number of output points					2 points/channel
8		Inter-module synchronization function			×		○	

2.4 Communication Modules and Network Modules

2.4.1 Ethernet interface modules

No.	Item				QJ71E71-100		RJ71EN71 (Ethernet)	
					Availability	Remarks	Availability	Remarks
1	Performance specifications	Transmission specifications	Data transmission speed		○	100Mbps/10Mbps	○	1Gbps/100Mbps/10Mbps
2			Communi-cation mode	1000BASE-T	×		○	Full-duplex
3				100BASE-TX	○	Full-duplex/half-duplex	○	Full-duplex/half-duplex
4				10BASE-T	○	Half-duplex	○	Full-duplex/half-duplex
5			Interface		○	RJ45 connector (Fixed to MDI)	○	RJ45 connector (Auto MDI/MDI-X)
6			Transmission method		○	Base band	○	Base band
7			Maximum frame size		○	1518 bytes	○	1518 bytes 9022 bytes (when jumbo frames are used)
8			Jumbo frame		×		○	*5
9			Maximum segment length		○	100m (length between hub and node)*2	○	100m (length between hub and node)*2
10			Number of cascade connections	1000BASE-T	×		○	*3
11				100BASE-TX	○	2 levels maximum*4	○	2 levels maximum*4
12				10BASE-T	○	4 levels maximum*4	○	4 levels maximum*4
13			IP version		○	Compatible with IPv4	○	Compatible with IPv4
14		Sending /receiving data storage memory	Number of simultaneous open connections		○	16 connections (connections usable on a program)	○	128 connections (connections usable on a program)
15			Fixed buffer		○		○	5K words × 16
16			Socket communications		×		○	5K words × 48 (when only P1 is used)*5 5K words × 112 (when P1 and P2 are used)*5
17			Random access buffer		○	6K words × 1	○	6K words × 1
18			E-mail	Attachment	○	6K words × 1	×	
19				Body	○	960K words × 1	×	

No.	Item			QJ71E71-100		RJ71EN71 (Ethernet)	
				Availability	Remarks	Availability	Remarks
20	Instruction	Link dedicated instruction	Reading device data from the programmable controller on another station	○	READ	○	READ
21			Reading device data from the programmable controller on another station (with a completion device)	○	SREAD	○	SREAD
22			Writing device data to the programmable controller on another station	○	WRITE	○	WRITE
23			Writing device data to the programmable controller on another station (with a completion device)	○	SWRITE	○	SWRITE
24			Reading device data from the programmable controller (ACPU) on another station	○	ZNRD	○	ZNRD
25			Writing device data to the programmable controller (ACPU) on another station	○	ZNWR	○	ZNWR
26			Sending data to the programmable controller on another station	○	SEND	○	SEND
27			Receiving data from the programmable controller on another station	○	RECV	○	RECV
28			Receiving data from the programmable controller on another station	○	RECVS	○	RECVS
29			Reading/writing clock data or remote RUN/STOP	○	REQ	○	REQ
30		Ethernet instruction	Opening a connection	○	OPEN	○	OPEN/CONOPEN
31			Closing a connection	○	CLOSE	○	CLOSE/CONCLOSE
32			Sending data [Socket communications]	×		○	SOCSND
33			Sending data [Communications using a fixed buffer]	○	BUFSND	○	BUFSND
34			Reading receive data [Socket communications]	×		○	SOCRCV
35			Reading receive data [Communications using a fixed buffer]	○	BUFRCV	○	BUFRCV
36			Reading receive data (for interrupt programs) [Socket communications]	×		○	SOCRCVS
37			Reading receive data (for interrupt programs) [Communications using a fixed buffer]	○	BUFRCVS	○	BUFRCVS
38			Reinitializing the module	○	UINI	○	UINI*6
39			Executing the protocols registered for the predefined protocol support function	○	ECPRTCL	○	ECPRTCL
40			Clearing error information	○	ERRCLR	○	ERRCLEAR
41			Reading error information	○	ERRRD	○	ERRRD
42			Reading received e-mail	○	MRECV	×	
43			Sending e-mail	○	MSEND	×	

No.	Item		QJ71E71-100		RJ71EN71 (Ethernet)	
			Availability	Remarks	Availability	Remarks
44	Function	Connection with MELSOFT products and GOT	○		○	
45		Communications using SLMP	○		○	
46		Communications using the predefined protocol	○		○	
47		Socket communications	×		○	*5
48		Communications using a fixed buffer	○		○	
49		Communications using a random access buffer	○		○	
50		Communications using a link dedicated instruction	○		○	
51		File transfer function (FTP server)	○		○	
52		Time setting function (SNTP client)	×		○	*5
53		IP filter function	×		○	*5
54		Remote password	○		○	
55		Reinitializing the module	○		○	*6
56		Ethernet diagnostics	○		○	
57		E-mail function	○		×	
58		Web function	○		×	

*1 When using 1Gbps, set "Communication Speed" under "Application Settings" to "Automatic Negotiation". (1Gbps cannot be selected.)
*2 For maximum segment length (length between hubs), consult the manufacturer of the hub used.
*3 Consult the manufacturer of the switching hub used.
*4 This applies when a repeater hub is used. For the number of levels that can be constructed when a switching hub is used, consult the manufacturer of the switching hub used.
*5 This function cannot be used for the Q-compatible Ethernet.
*6 This function can be used for the Q-compatible Ethernet.

2.4.2 CC-Link IE Field Network master/local modules

No.	Item					QJ71GF11-T2		RJ71GJ11-T2/RJ71EN71	
						Availability	Remarks	Availability	Remarks
1	Performance specifications	Maximum number of link points per network			RX	○	16K points (16384 points, 2K bytes)	○	16K points (16384 points, 2K bytes)
2					RY	○	16K points (16384 points, 2K bytes)	○	16K points (16384 points, 2K bytes)
3					RWr	○	8K points (8192 points, 16K bytes)	○	8K points (8192 points, 16K bytes)
4					RWw	○	8K points (8192 points, 16K bytes)	○	8K points (8192 points, 16K bytes)
5		Maximum number of link points per station	Master station		RX	○	16K points (16384 points, 2K bytes)	○	16K points (16384 points, 2K bytes)
6					RY	○	16K points (16384 points, 2K bytes)	○	16K points (16384 points, 2K bytes)
7					RWr	○	8K points (8192 points, 16K bytes)	○	8K points (8192 points, 16K bytes)
8					RWw	○	8K points (8192 points, 16K bytes)	○	8K points (8192 points, 16K bytes)
9			When the submaster function is used	Master operating station	RX	○	16K points	○	16K points
10					RY	○	16K points (Own station send range is 2K points.)	○	16K points (Own station send range is 2K points.)
11					RWr	○	8K points	○	8K points
12					RWw	○	8K points (Own station send range is 1024 points.)*1	○	8K points (Own station send range is 1024 points.)*1
13				Submaster operating station	RX	○	2K points (assigned to the station number 0 or submaster station)	○	2K points (assigned to the station number 0 or submaster station)
14					RY	○	2K points (assigned to the station number 0 or submaster station)	○	2K points (assigned to the station number 0 or submaster station)
15					RWr	○	1024 points (assigned to the station number 0 or submaster station)*2	○	1024 points (assigned to the station number 0 or submaster station)*2
16					RWw	○	1024 points (assigned to the station number 0 or submaster station)*2	○	1024 points (assigned to the station number 0 or submaster station)*2
17			Local station		RX	○	2K points (2048 points, 256 bytes)	○	2K points (2048 points, 256 bytes)
18					RY	○	2K points (2048 points, 256 bytes)	○	2K points (2048 points, 256 bytes)
19					RWr	○	1K points (1024 points, 2K bytes)*2	○	1K points (1024 points, 2K bytes)*2
20					RWw	○	1K points (1024 points, 2K bytes)*2	○	1K points (1024 points, 2K bytes)*2
21		Transient transmission capacity				○	1920 bytes maximum	○	1920 bytes maximum
22		Communication speed				○	1Gbps	○	1Gbps
23		Network topology				○	・Line topology ・Star topology (Coexistence of line topology and star topology is also possible.) ・Ring topology	○	・Line topology ・Star topology (Coexistence of line topology and star topology is also possible.) ・Ring topology
24		Communication cable				○	Ethernet cable which satisfies 1000BASE-T standard: Category 5e or higher, straight cable (double shielded, STP)	○	Ethernet cable which satisfies 1000BASE-T standard: Category 5e or higher, straight cable (double shielded, STP)
25		Maximum station-to-station distance				○	100m (conforms to ANSI/TIA/EIA-568-B (Category 5e))	○	100m (conforms to ANSI/TIA/EIA-568-B (Category 5e))
26		Overall cable distance				○	Line topology: 12000m (when 121 stations are connected)	○	Line topology: 12000m (when 121 stations are connected)
27						○	Star topology: Depends on the system configuration.	○	Star topology: Depends on the system configuration.
28						○	Ring topology: 12100m (when 121 stations are connected)	○	Ring topology: 12100m (when 121 stations are connected)
29		Number of cascade connections				○	20 levels maximum	○	20 levels maximum
30		Maximum number of connectable stations				○	121 stations (master station: 1, slave station: 120)	○	121 stations (master station: 1, slave station: 120)
31		Maximum number of networks				○	239	○	239
32		Communication method				○	Token passing	○	Token passing

No.	Item				QJ71GF11-T2		RJ71GJ11-T2/RJ71EN71	
					Availability	Remarks	Availability	Remarks
33	Instruction	Link dedicated instruction			○	READ	○	READ
34					○	SREAD	○	SREAD
35					○	WRITE	○	WRITE
36					○	SWRITE	○	SWRITE
37					○	SEND	○	SEND
38					○	RECV	○	RECV
39					○	RECVS	○	RECVS
40					○	REQ	○	REQ
41					○	REMFR	○	REMFR
42					○	REMTO	○	REMTO
43		CC-Link dedicated instruction			○	RIRD	○	RIRD
44					○	RIWT	○	RIWT
45		Others			○	CCPASET	○	CCPASET
46					○	UINI	○	UINI
47	Function	Cyclic transmission	Communi-cations with other stations	Communications using RX and RY	○		○	
48				Communications using RWr and RWw	○		○	
49			Access to devices and link devices	Link refresh	○		○	
50				Direct access to link devices	○		○	
51			Cyclic data integrity assurance		○		○	
52			Interlink transmission		○		○	
53			Mode selection for cyclic transmission		○		○	
54			Sequence scan synchronization specification		○		○	
55			Cyclic transmission punctuality assurance		○		○	
56			Input status setting for data link faulty station		○		○	
57			Output status setting for CPU STOP		○		○	
58			Output status setting for CPU stop error		○		○	
59			Cyclic transmission stop and restart		○		○	
60		Transient transmission	Communications within the same network		○		○	
61			Communications with different networks		○		○	
62			Dedicated instruction		○		○	
63		RAS	Slave station disconnection		○		○	
64			Automatic return		○		○	
65			Module error collection		○		×	Use the event history function instead.
66			Loopback function		○		○	
67			Submaster function		○		○	

No.	Item				QJ71GF11-T2		RJ71GJ11-T2/RJ71EN71	
					Availability	Remarks	Availability	Remarks
68	Function	Diagnostics	CC-Link IE Field Network		○		○	
69			Diagnostics of the module	Hardware test	○		×	Use the module communication test instead.
70				Self-loopback test	○		×	Use the module communication test instead.
71				Loop test	○		×	Use the module communication test instead.
72				Module communication test	○		○	The hardware test, self-loopback test, and loop test are integrated into one test.
73			Diagnostics of own network	Cable test	○		○	
74			Diagnostics of other network	Communication test	○		○	
75				IP communication test	○		○	
76		Others	CC-Link IE Field Network synchronous communication function		×		○	Newly added.
77			Reserved station specification		○		○	
78			Temporary cancel of the reserved station setting		○		○	
79			Error invalid station, temporary error invalid station setting		○		○	
80			Interrupt request to CPU module		○		○	
81			IP packet transfer function		○		○	
82			Station number setting using a program		○		○	

*1 8K points when communication mode is "High-Speed" (Own station send range is 256 points.)
*2 256 points when communication mode is "High-Speed"

2.4.3 CC-Link system master/local modules

No.	Item			QJ61BT11N		RJ61BT11	
				Availability	Remarks	Availability	Remarks
1	Parameter setting	Station number, transmission speed, and mode setting		○	Set with the rotary switch on the front of the module.	○	Set in module parameters.
2		Mode setting by using the RLPASET instruction		○	Set in the control data of the RLPASET instruction.	×	Set in module parameters.
3		Link refresh setting		○	Enter the start number of the refresh target device.	○	Enter the start number and end number, or the start number and number of points of the refresh target device.
4		Mode setting	Remote I/O net mode	○		○	
5			Remote net additional mode	○		×	Use the remote net Ver.2 mode instead.
6			Remote net Ver.1 mode	○		○	
7			Remote net Ver.2 mode	○		○	
8			Remote device net Ver.1 mode	×		○	Newly added.
9			Remote device net Ver.2 mode	×		○	Newly added.
10		Transmission speed auto-tracking function on local stations		×		○	Newly added.
11	Function	Number of connectable remote device stations		○	Up to 42 stations can be connected to a single master station.	○	Up to 64 stations can be connected to a single master station.

2.4.4 Serial communication modules

No.	Item		QJ71C24		RJ71C24	
			Availability	Remarks	Availability	Remarks
1	Parameter setting	Station number, transmission speed, and mode setting	○	Set in parameter (Intelligent function module switch setting).	○	Set in module parameters.
2		Modem function, user frame details, and user frame specification	○	Stored in the programmable controller CPU.	○	Stored in the serial communication module.
3	Function	Increased serial communication speed	○	115.2Kbps	○	230.4kbps
4		Echo back enable/prohibit specification for RS-422/485 interface	○	This function can be used for CH2 only.	○	This function can be used for both channels.
5		NULL character automatic removal designation	×		○	Newly added.
6		Erroneous noise signal reception prevention function	×		○	Newly added.